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# DOMINION DENTAL JOURNAL

(Official Organ of the Canadian Dental Associations.)



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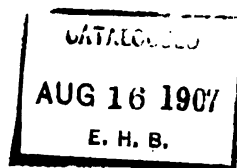
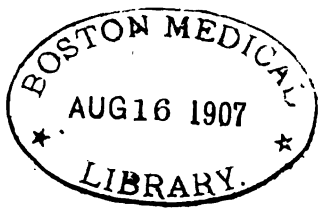
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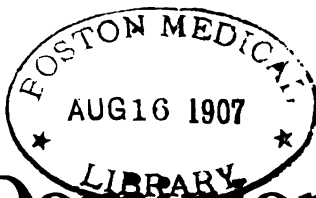




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## Original Communications

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### MEETING OF THE DOMINION DENTAL COUNCIL.

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The meeting of the Dominion Dental Council was held in the Royal College of Dental Surgeons, Nov. 15th, 1905, at 14. K. The Provisional President, Dr. F. A. Stevenson, took the chair, and called the meeting to order, Dr. Cowan acting as Secretary. Present: Drs. Stevenson, Globensky, Burt, Abbott, Woodbury, Thompson, Bagnall, Magee, McInnis, Bush, Cowan, Bruce McClure, Size.

Credentials having been called, were presented.

Dr. Stevenson reported that Quebec had not yet decided to become an agreeing district, but had elected two representatives. Because of this he asked to be relieved from the duties of the chair.

Moved by Dr. Cowan, seconded by Dr. Abbott, That Dr. Stevenson be asked to retain the chair until the officers are elected. Carried.

Moved by Drs. McInnis and Abbott, That the four representatives from the Territories be accepted as delegates, two from Saskatchewan and two from Alberta. Carried.

Moved by Dr. Woodbury, seconded by Dr. Globensky, That Dr. Willmott be asked to sit with us as an advisory member. Carried.

Moved by Dr. Cowan, seconded by Dr. Bagnall, That Dr. Maillet, of Montreal, be granted the privileges of the floor. Carried.

Moved by Dr. Woodbury, seconded by Dr. Thompson, That in all matters affecting the constitution and rules governing this body the unit of representation be the incorporated dental bodies, and that in voting the Provinces be called and not the individual. Carried.

Moved by Dr. Bush, seconded by Dr. Magee, That the

minutes of the last meeting, as printed, be accepted as read. Carried.

Reports from the various Provinces showing the action taken on Dominion Dental Registration was called for.

Dr. Woodbury reported for Nova Scotia that that Province had accepted the Dominion Dental Council resolutions.

Dr. McInnis reported that Manitoba had already accepted the Dominion Dental Council resolution by-law.

Dr. Bagnall reported that Prince Edward Island had reciprocal powers.

Dr. Magee reported for New Brunswick that they were in favor of Dominion Registration.

Dr. Willmott reported that the Royal College of Dental Surgeons of Ontario had accepted the Dominion Dental Council laws and standard.

Dr. Cowan reported that the Territories had accepted the resolution, but that the division of the Territories into two Provinces gave to each of these Provinces the right to accept or reject, and that Saskatchewan would accept at the first session of Legislature.

Dr. Bruce reported for Alberta that the question had been laid over in his Province until the new Provincial Association was brought legally into existence.

The report of the Committee on Organization, appointed one year ago, was called up, Dr. Woodbury presenting it.

Moved by Dr. McInnis, seconded by Dr. McClure, That the report of the Organization Committee be received, read, and then discussed clause by clause in Committee of the Whole. Carried.

Report of the Organization Committee as finally adopted, showing all important amendments moved thereto for the information of all concerned:

#### OBJECT.

The object of the Dominion Dental Council is as follows:

(1) To promote a central organization under the control of the dental profession of the Provinces of Canada; (2) to erect and maintain a uniform standard of education and ethics for the dental profession; (3) to conduct examinations and issue certificates of qualification, which certificates shall be accepted without further examinations by the Provinces.

#### MEMBERSHIP.

The members of the Dominion Dental Council shall consist of two representatives elected or appointed by the incorporated dental registering bodies in each Province that agrees to accept the standards of the professional examination and certificate of

qualification for dental surgeons issued by the Dominion Dental Council without further examination. These representatives shall serve a term of four years each.

#### NOTE.

The Committee recommends that the Council shall consist of one representative from each Province after the year 1906.

Moved by Dr. Woodbury, seconded by Dr. Bruce, that this recommendation be referred back to the Provincial incorporated dental bodies for concurrence. Carried.

#### OFFICERS.

The officers shall consist of a President, a Vice-President, and a Secretary-Treasurer, who shall be elected at every regular meeting of the Council.

#### DUTIES OF OFFICERS.

It shall be the duty of the President to preside at all meetings of the Council; to enforce the due observance of the by-laws, rules and regulations; to put to the meeting all resolutions and motions properly before it; to announce the result of the vote; he shall have the right to vote on all questions, and, in case of a tie may, in addition, give the deciding vote; he shall see that the officers and employees of the Council perform their duties; he shall sign orders on the Secretary-Treasurer for all moneys voted, and for the payment of all accounts ordered by the Council or Executive Committee; in case of a vacancy occurring in any office of the Council, or among appointees of the Board in the interim of meeting, he shall fill it temporarily; he shall perform such other duties as the Council may by by-law or resolution from time to time direct, and shall hold office until his successor be appointed.

The Vice-President shall perform all the duties of President during the absence or disability of the latter.

It shall be the duty of the Secretary-Treasurer to conduct, under the direction of the President of the Council and Executive Committee, the correspondence relating to the affairs of the said Council and Executive Committee; to keep copies of such letters written by him, and files of all letters received; to keep a true record of the proceedings of each meeting of the Council and Executive Committee; to read the minutes of the same at the next regular meeting; to notify members of the meeting; to keep a correct, classified list of all applicants for certificates and certificates granted; to lay before the Council a summary of its transactions at each regular meeting, and, in conference with the President, to transact all business requiring attendance between



the various meetings of the Council. It shall also be his duty to receive all funds of the Board, and to deposit them in a chartered bank; to pay all orders drawn on him signed by the President; to keep a correct account of all moneys received and disbursed by him; to give at each regular meeting a report of the state of the finances of the Council, and to deliver to his successor in office all moneys, books, papers, and other property of the Council that may be in his possession, and to perform such other duties as the Council may by by-law or resolution from time to time direct.

#### SECRETARY-TREASURER'S BONDS.

The Secretary-Treasurer shall give bonds of some guarantee company approved by the Council for the proper performances of his trust in the sum of \$2,000, the premium on such bonds to be paid by the Council. The Secretary-Treasurer shall, upon order of the President, surrender his books and papers for audit.

#### AUDITOR.

The President shall annually appoint a chartered accountant as auditor, and he shall order the books and vouchers of the Secretary-Treasurer to be audited at least once in every twelve months.

#### EXECUTIVE COMMITTEE.

There shall be an Executive Committee, which shall consist of the President, Vice-President, and Secretary-Treasurer. It shall be the duty of the Executive Committee to conduct the business *ad interim* according to the rules, regulations and resolutions adopted by the Council in session; to meet emergencies and transact necessary business that cannot wait for the meeting of the Council.

#### REGULAR MEETINGS OF COUNCIL.

The Council shall meet biennially after the meeting of 1906, for the transaction of business at any suitable date between the first day of July and fifteenth day of November, the exact date to be determined by the Executive Committee.

#### QUORUM.

Representatives of a majority of the agreeing Provinces shall constitute a quorum of the Council.

#### SPECIAL MEETINGS.

Special meetings may be called by the President at the request of the Executive Committee or the representatives from a majority of the agreeing Provinces.

**EXAMINERS.**

The Council shall annually or biennially appoint a sufficient number of Examiners, whose duty it shall be: (1) To set all examination papers for candidates for the certificates of qualification, and deliver them to the Secretary-Treasurer for printing and distribution to the presiding Examiners; (2) to receive from the Secretary-Treasurer the completed papers, examine and pass upon them, and return them promptly to the Secretary-Treasurer, with statement showing the marks awarded. The marks awarded to the papers of the candidates by the Examiners shall be final.

**PRESIDING EXAMINERS.**

Presiding Examiners shall be appointed in each centre where examinations are conducted, who shall have charge of and be responsible for the examination papers, and who shall arrange for and conduct the written and clinical examination according to the regulations of the Council.

**PLACES WHERE EXAMINATIONS SHALL BE HELD.**

Examinations for certificate of qualification shall be held in such place for each Province as the Executive Committee may decide upon after consultation with the incorporated dental registering body of the Province, on the same days of the week and months, and the subjects shall be written upon in the same rotation in each place of examination. Candidates shall in all cases be examined at the place selected for the Province in which they reside.

**TIME OF EXAMINATIONS.**

The examinations shall be held on the first Tuesday in June and continue until finished; subject to the rules of the Council, candidates under Class C may apply for certificate of qualification at any time.

The meeting then adjourned until 9.30 Thursday morning.

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THURSDAY MORNING, NOV. 16TH, 9.30. K.

Meeting of the Dominion Dental Council. Present: All members of the Council and Drs. J. B. Willmott and Maillet.

Report of the Organization Committee, clause by clause, continued.

**ELIGIBILITY OF CANDIDATES.**

The following classes are eligible for certificate of qualification, by meeting the standards erected for each as follows:

Class A.—All those who shall enter upon the study of den-

tistry in any of the Provinces entering into the agreement after the first day of January, 1906, shall, upon making application to the Dominion Dental Council for examination, present the following evidence in the form required: (1) A certificate of having passed the matriculation examination required by the Dominion Dental Council; (2) satisfactory proof to show that the applicant has been a *bona fide* student of dentistry for a period of not less than three and a half years, or forty-two months, at least twenty-eight months of which must have been spent in a dental college; (3) produce a diploma or certificate of graduation from any recognized Canadian dental school; (4) shall pass the final examination required by the Dominion Dental Council; (5) produce evidence of good moral character.

The representatives from New Brunswick having moved that the word "Canadian" be struck out of clause 3 of Class A., a vote was taken thereon, and resulted as follows as per roll call, those recorded "yes" voting that the word shall remain: Prince Edward Island, yes; Nova Scotia, yes; New Brunswick, no; Quebec, yes; Ontario, yes; Manitoba, yes; Saskatchewan, yes; Alberta, yes; no, 1; yes, 7.

Class B.—All those who are on the first of January, 1906, *bona fide* students of dentistry in any of the Provinces entering upon the agreement, shall, upon making application to the Dominion Dental Council, present the following evidence in the form required: (1) Matriculation and registration as a dental student; (2) a *bona fide* student of dentistry for a period of forty-two months; (3) diploma or certificate of graduation from a recognized Canadian dental school; (4) produce evidence of good moral character; (5) pass the final examinations required by the Dominion Dental Council.

Class C.—All those who on the first day of January, 1905, were holders of valid and unforfeited certificates of license in any of the Provinces or North-West Territories entering into the agreement, and have been in regular, legal, ethical practice of the profession of dentistry in any of the said Provinces or North-West Territories for ten years immediately prior to the date of application to the Dominion Dental Council, present the following evidence in the form required: (1) Registration in some Province or the North-West Territories of the Dominion of Canada; (2) regular, legal, ethical practice in Canada for ten years immediately prior to date of application; (3) produce evidence of moral character.

Class D.—All those who on the first of January, 1905, have not been in practice ten years, but who were on that date holders of valid and unforfeited certificates of license in any of the Provinces or North-West Territories entering into the agreement, shall, upon making application to the Dominion Dental

Council, present the following evidence in the form required: (1) Registration in some Province or the North-West Territories of Canada; (2) regular, legal, ethical practice in Canada from the date of registration until the date of application for examination; (3) satisfactory evidence of good moral character; (4) and shall be required to pass the examinations prescribed by the Dominion Dental Council

Students or practitioners who have received exemptions from or rights to matriculation or practice by special personal Act of Parliament or Legislature are debarred from application under any class unless they qualify in the regular prescribed manner upon the subjects in which they have been exempt.

It having been recommended by the Committee that an additional requirement be added to Class D to read "Graduation from a reputable college of dentistry, and having fulfilled the conditions of studentship required at the time of graduation, or having passed examinations before the examining body of any Provinces or Territory of the Dominion of Canada," it was moved by Dr. Magee, seconded by Dr. Bush, that this clause be struck out, which motion carried.

#### STANDARDS.

The standards for preliminary and professional education shall be such as are endorsed by the Provinces and Territories entering the agreement, and any contemplated changes must be so endorsed before they become part of the curriculum of the Dominion Dental Council.

#### RULES REGULATING THE EXAMINATIONS AND REQUIREMENTS FOR THE CERTIFICATE OF QUALIFICATION.

*Preliminary Requirements.*—Matriculation examinations are not conducted by the Dominion Dental Council. For students commencing the study of dentistry after January 1st, 1906, the minimum standard of matriculation recognized by the Dominion Dental Council is as follows:

(a) Preliminary examination for matriculation into any institution in Great Britain or Canada recognized for the purpose of matriculation in medicine and dentistry by the General Medical Council of Great Britain. (b) Matriculation into the Faculty of Arts of any Provincial University of Canada.

Every candidate who commences the study of dentistry after January 1st, 1906, must produce satisfactory proof that he has spent at least forty-two months in actual professional study and has passed his matriculation examinations, has been registered as a dental student by the Registering Board of one of the Provinces of the Dominion of Canada included in the agreement and represented upon the Dominion Dental Council. The pre-



scribed period of study shall include four winter collegiate sessions of at least seven months' duration and a *bona fide* studentship with a registered practitioner of dentistry, the proper number of months to complete the term of forty-two months. The candidate shall produce a diploma or certificate of graduation from a recognized Canadian dental school.

#### PROFESSIONAL EXAMINATIONS.

Class A.—Candidates in this class for certificates of qualification of the Dominion Dental Council will be required to pass an examination upon the following subjects and any others that may properly form part of a thorough dental education.

#### SUBJECTS.

1. Operative dentistry, including porcelain and other inlays.
2. Prosthetic dentistry and crown and bridge work.
3. Therapeutics, anesthetics, and materia medica.
4. Orthodontia.
5. Bacteriology and pathology.
6. Anatomy.
7. Physiology and histology (dental).
8. Medicine and surgery.
9. Physics, chemistry and metallurgy.
10. Jurisprudence and ethics.

The examination shall be written and clinical.

Clinical examinations shall be conducted in: (1) Operative dentistry, which shall include examinations of patients, Diagnosis, Treatment, operation upon patients, etc.; (2) Prosthetic dentistry, which shall include any of the usual operations in mechanism, adjustment, crown and bridge work and porcelain work. Clinical examinations shall be conducted by the Presiding Examiners, and wherever more than ten candidates apply at any one place, assistant Examiners shall be appointed by the Executive Committee.

Class B.—Candidates for professional examinations under Class B shall be examined on the subjects required by Class A.

Candidates for certificate under Class C are exempt from all examination if they meet the conditions imposed.

Class D.—Candidates for examinations under Class D will be required to pass examinations in the following subjects:

(1) Operative dentistry; (2) Prosthetic Dentistry; (3) Crown and Bridge work; (4) Porcelain and other inlays; (5) Pathology; (6) Therapeutics; (7) Anesthetics; (8) Orthodontia. The clinical examinations in this class shall be the same as in Classes A and B. A candidate who passes all the examinations, written and clinical, upon two-thirds of the sub-

jects will be exempt from re-examinations upon these subjects, provided he applies for examination at the regular period next following.

#### PASS MARKS.

Written examinations: Minimum, 50 per cent.; average 60 per cent.

Clinical examinations: Minimum average, 75 per cent.

The report of the Examiners shall be final.

#### EVIDENCE REQUIRED FROM CANDIDATE FOR THE CERTIFICATE OF QUALIFICATION.

Classes A and B.—(a) Certificate in prescribed form of good moral character, signed by two dentists in good standing in the Province from which candidate comes; (b) of having passed the preliminary examination required by the Council. [Note.—This sub-section shall not apply to Class B.] (c) Of having been registered as a dental student in some Province entering into the agreement; (d) of having attended four academic years of at least seven months each at one or more dental colleges, and spent a sufficient number of months in *bona fide* studentship with a preceptor to make up forty-two months; (e) of having at such dental college, colleges, or university, passed all the subjects of the dental curriculum, and of having obtained a diploma or certificate of graduation from some recognized Canadian dental school, college or university; (f) evidence of age of majority.

Classes C and D.—1. Of age and character. 2. From dental registering body of Province or Territory entering agreement, in which applicant is registered as follows: (a) Full particulars of registration; (b) information of the length of time the candidate has been in continuous practice of dentistry; (c) whether he has observed the code of dental ethics; (d) certificate, signed by two dentists in good standing in the Province or Territory from which the candidate comes, as to his good moral character.

#### DATE OF APPLICATION.

Applications for examination, with accompanying certificates, must be deposited with the Secretary-Treasurer at least thirty days before the examination. The examination fee must accompany the application.

#### DATE OF PROFESSIONAL EXAMINATION.

Professional examination shall be held annually on the first Tuesday in June, and continue without interruption until finished.

## FEES.

The fee for admission to examination in Classes A. and B. shall be \$50.

For re-examination in Classes A. and B., \$25.

For re-entry in one or more subjects, \$10 per subject.

For certificate in Class C., \$100.

For admission to examination in Class D., \$100.

For re-examination in Class D., \$50.

## REGULATIONS TO BE OBSERVED RESPECTING EXAMINATION PAPERS.

Questions under seal of the Council will be sent to the Presiding Examiners in each place where examination is to be held, who, on the day of the examination, and in the presence of the candidates will break the seals, and deliver in proper rotation the paper of questions contained therein to the candidates.

The candidate shall not, by any mark or signature, make his answers recognizable, but shall sign his name only upon the certificate accompanying the papers, which shall be countersigned by the person appointed to conduct the examination, and attested by a Justice of the Peace or other qualified person.

The papers shall at once be enclosed in the presence of the candidate, sealed, and the lapel of the envelope initialed by the Examiner.

## RULES FOR THE GUIDANCE OF CANDIDATES.

1. No candidate shall be allowed to leave the hall after questions are given out, until his answers have been handed in and at least forty-five minutes have elapsed.

2. No book, or paper, or note, or "crib" of any kind shall be brought to the examination hall.

3. Candidates must not communicate with or assist each other while the examinations are going on, either by writing, signs, words, or in any manner whatever.

4. Candidates must write the answers to the questions legibly and neatly on one side only of the paper, placing the number of the question before each answer.

5. Any infraction of the above rules will lead to the exclusion of the candidate who is guilty of it from the remainder of the examinations, and he will not receive credit for any examination papers which he may have handed in to the Presiding Examiner previous to his being detected in such misconduct.

## REMARKS.

All successful candidates before receiving their certificate of qualification from the Dominion Dental Council, will be required

to sign the prescribed declaration, which binds or obliges him to conform to the requirements and regulations, under penalty of forfeiture of certificate.

Having passed all the examinations and signed the prescribed declaration, the candidate will be entitled, without further fee, to receive the certificate of qualification, conferring upon him the privilege of admission without further examination as a practitioner of dental surgery, and qualified for registration in any Province of the Dominion of Canada subscribing to the agreement and electing members to the Dominion Dental Council, provided that this examination and certificate in no way exempts the holder from the usual fees exacted by the provincial registering body to which he may apply for registration.

It was then moved by Dr. Woodbury, seconded by Dr. Bruce, and agreed, that the Ontario Dental Association Code of Ethics be inserted as part of the Organization Committee's report, and adopted as the Code of Ethics to which all applicants for the Dominion Dental Council certificate will have to subscribe before receiving the certificate, said code to read as follows:

#### CODE OF ETHICS.—ARTICLE I.

Sec. 1.—The dentist should be ever ready to respond to the reasonable wants of his patrons, and shall fully recognize the obligations involved in his duties toward them, as in many cases they are unable to comprehend the operation or service performed, or to correctly estimate its value. The practitioner must be guided by his own sense of right in treating the cases as his own superior knowledge dictates. His manner should be gentle and sympathetic, and yet sufficiently firm to enable him to secure the best results of his skill. He should gain the confidence of his patrons, not alone by the skilful performances of difficult operations, but also by attending carefully to the simple cases committed to his care.

Sec. 2.—The dentist, without being obtrusive or pedantic, should impart such information to his patrons as his opportunities afford him in regard to the causes and nature of the disease in the teeth or adjacent parts which he may be called upon to treat, and should explain to them the importance of availing themselves of such timely preventives or remedies as he may deem necessary to their welfare. He should also communicate such general information as shall enable them to exercise an intelligent appreciation of what the profession aims to accomplish.

Sec. 3.—The dentist shall be temperate in all things, keeping both mind and body in the best possible health, that his patients may have the benefit of that clearness of judgment and skill which they have the right to expect.



## ARTICLE II.

Sec. 1.—Every member of the dental profession is bound as such to maintain the honor and integrity of the profession. To this end he should himself be upright and courteous in his intercourse with the public and his brethren in the profession.

Sec. 2.—It is unprofessional to resort to public advertisements, such as cards, handbills, posters, or signs, calling attention to peculiar styles of work, photos, lithographs, or engravings made from wood, steel or other materials, advertising free operations, prices for services, special modes of operating, or to claim superiority over neighboring practitioners; to publish reports of cases, or certificates in public prints; to go from house to house soliciting or performing operations; to circulate or recommend nostrums, or perform other similar acts. But nothing in this section shall be so construed as to imply that it is unprofessional for dentists to announce in the public prints or by card, simply their names, occupation, and place of business, or in the same manner announce their removal from or return to business, or to issue to their patients appointment-cards.

Sec. 3.—The dentist, when applied to merely for advice or temporary relief by the patient of a reputable practitioner, whose services at that time he is unable to procure, should guard against disparaging the family dentist by hints, enquiries, or any other means calculated to weaken the patient's confidence in him. At the same time the dentist should not, from too high a sense of professional courtesy to his neighboring practitioner, allow the interests of persons so applying for counsel or service to be jeopardized.

Sec. 4.—When general rules shall have been adopted by members of the profession practicing in the same localities in relation to fees, it is unprofessional and dishonorable to depart from these rules except when variation of circumstances require it. And it is ever to be regarded as unprofessional to warrant operations or work as an inducement to patronage. It is also unprofessional to violate, or be a party to a violation, in letter or in spirit, of the Dental Law.

Moved by Dr. Abbott, seconded by Dr. McInnis, That the report be referred back to the Organization Committee, with instructions to add a clause to read, "That actual and necessary travelling expenses and five dollars per day be paid members of the Dominion Dental Council while attending meetings of that body." This having been agreed to, the succeeding clauses of the Committee's report were taken up and assented to as follows:

There shall be paid to the Examiner for the preparation of each examination paper the sum of five dollars, and for reading and valuing each paper of a student the sum of twenty-five cents; but for an annual examination no examiner shall be paid less

than ten dollars. The Presiding Examiner shall receive for presiding at the annual examination ten dollars per day and all necessary expenses for watchers, hall, etc.

The question of salary to the Secretary-Treasurer being raised, it was moved by Dr. Burt, seconded by Dr. Bagnall, That the salary of the Secretary-Treasurer be left to the Executive Committee. Carried.

Moved by Dr. Cowan, seconded by Dr. Bush, That all the forms of certificate necessary under the rules to be adopted be drawn up and added to the committee's report. Carried.

Moved by Dr. Cowan, seconded by Dr. Bush, That the following be the form of certificate required from applicants under Classes C. and D.:

....., 19..

This is to certify that ..... was registered in the Province of ....., on ....., and has been in continuous practice in the Province from ..... to ..... He was registered here by virtue of having (give qualification)..... He has, during the period of his practice here been regarded as a regularly ethical practitioner by the local Association.

(Sgd.) .....  
*Secretary of the Dental Association  
 of the Province of .....*

(Seal) (Sgd.) .....  
*President of the Dental Association  
 of the Province of .....*

#### STATUTORY DECLARATION.

Province of .....  
 County of .....

.....

Being duly sworn, says that he is the person referred to as making the application for Certificate of Qualification granted by the Dominion Dental Council of Canada; that the statements therein contained are in his own handwriting, and are strictly true in every respect; that he has complied with all the requirements of the law, and that he has read and understands this affidavit.

(Sgd.) .....  
 (Signature of applicant.)

Sworn to before me, this  
 .....day of ....., 19..

.....  
 Justice of the Peace.

## CERTIFICATE OF GOOD MORAL CHARACTER.

(Signed by not less than two dentists in good standing.)

This certifies that I have been personally acquainted with Dr. .... for ..... years; that I believe him to be of good moral character; and I hereby recommend him to the Dominion Dental Council as entirely worthy to receive a Certificate of Qualification from them.

(Sgd.) .....

P.O. ....

Registered in the year ....

(Sgd.) .....

P.O. ....

Registered in the year ....

Moved by Dr. Size, seconded by Dr. Bush, That before the Certificate of Qualification is granted to any successful applicant therefor, he shall take the following statutory declaration:

I, ....., a licentiate of dental surgery, do solemnly declare that I will uphold the honor and dignity of the profession and adhere to the Code of Ethics adopted by the Dominion Dental Council, which reads (Code of Ethics to be inserted here). And I do solemnly promise as long as I hold the Certificate of Qualification granted by the Dominion Dental Council, or remain on the rolls as a certificatee, I will not resort to any advertising of a kind that may be adjudged by the Dominion Dental Council to be unprofessional; nor will I be guilty of any other practice deemed by them unbecoming to my profession or calculated to bring discredit upon the Dominion Dental Council.

And I hereby agree that if, in the opinion of the said Dominion Dental Council, I shall at any time be shown to have violated this undertaking in any way, I will, if the said Dominion Dental Council shall so decree, surrender my Certificate of Qualification, and all rights whatever that I may be in the enjoyment of as a certificatee, and I will consent to my name being struck off the rolls.

(Sgd.) .....

Council then adjourned to 20.30 K.

## EVENING SESSION.

Council resumed its session at 20.30 K., Dr. Woodbury in the chair.

Moved by Dr. Bush, seconded by Dr. Size. That the seal of the Dominion Dental Council be a maple leaf surrounded by nine links so as to form an endless chain, the whole to be further surrounded by the words "Dominion Dental Council of Canada." Carried

Moved by Dr. McInnis, seconded by Dr. Bagnall, That the following be the form for application for examination in Classes A. and B.:

## APPLICATION FOR CERTIFICATE OF QUALIFICATION.

I hereby apply for an examination granted by the Dominion Dental Council, and enclose the following proofs and fee, as required:

1. Required evidence as to age.
2. Certificate of moral character.
3. Required evidence of preliminary education and registration.
4. Required evidence of dental education.
5. Certified cheque, post office order, draft, or express money order, for \$50.

(Sgd.) .....

P.O. ....

[Note.—Make cheques, drafts, etc., payable to the Secretary of the Dominion Dental Council.]

Carried.

Moved by Dr. Thomson, seconded by Dr. McGee, That the following be the form used, showing the dental education of the applicant for examination:

EVIDENCE OF DENTAL EDUCATION FROM CANDIDATES FOR  
CERTIFICATES OF QUALIFICATION OF THE DOMINION  
DENTAL COUNCIL.

Classes A and B.

*Questions and Answers.*

1. Full name .....
2. Date of birth .....
3. Give date and source of each dental credential (diploma, license or degree) which you hold .....
4. What diploma or license, if any, conferred on you full right to practice dentistry .....
5. How many years have you studied dentistry.....

6. In what months and year and in what institutions have you attended dental lectures? Give list in chronologic order

Months.	Year.	Name of Institution.
..... to ....., 18....	.....	.....
..... to ....., 18....	.....	.....
..... to ....., 18....	.....	.....
..... to ....., 18....	.....	.....
..... to ....., 18....	.....	.....

Carried.

Moved by Dr. McInnis, seconded by Dr. Bruce, That the following be the form of the Secretary's professional examination report:

DOMINION DENTAL COUNCIL OF CANADA.—PROFESSIONAL  
EXAMINATION FOR CERTIFICATE OF QUALIFICATION.

Secretary's Report.

Final Professional Examination.

Name.	No. of Candidate.	Operative Dentistry and Inlays.	Pres. Dentistry, Crown and Bridge Work.	Therapeutics and Materia Medica.	Anesthetics.	Orthodontia.	Bacteriology and Pathology.	Anatomy.	Physiology and Histology.	Medicine and Surgery.	Physics.	Chemistry.	Metallurgy.	Jurisprudence.	Ethics.

Moved by Dr. Cowan, seconded by Dr. McInnis, That the following form be used by the Presiding and Provincial Examiners:

DOMINION DENTAL COUNCIL OF CANADA.—PROFESSIONAL  
EXAMINATION FOR CERTIFICATE OF QUALIFICATION.

Examiner's Report for (subject) .....

Candidate No.	Written.	Clinical.	Candidate No.	Written.	Clinical.	Candidate No.	Written.	Clinical.
	P.C.	P.C.		P.C.	P.C.		P.C.	P.C.

Carried.

Moved by Dr. McInnis, seconded by Dr. Bush, That the rules for the guidance of candidates be printed on blank books to be supplied all candidates for examination. Carried.

Moved by Dr. McInnis, seconded by Dr. Bush, That the Canadian Dental Schools recognized by the Dominion Dental Council are: (1) The Royal College of Dental Surgeons of Ontario, Toronto; (2) Laval University Dental Dept., P.Q.; (3) McGill University Dental Dept., P.Q. Carried

Dr. McClure moved, seconded by Dr. Magee, that the following form be printed as instructions to examiners:

#### INSTRUCTIONS TO EXAMINERS.

Examiners, when notified by the Secretary, shall, at the time specified, prepare and forward to him a paper containing not less than eight and not more than twelve questions on the subject assigned to him. To each question on the paper he shall attach a maximum value. The paper shall be in duplicate, and if possible typewritten.

When the Examiner receives from the Secretary the answers of the candidate, he shall carefully read and value the same, and note in the margin of each answer the value assigned.

He shall within fifteen days of the receipt of the answers complete his examination and return the answers to the Secretary, with a tabulated report of the result of his work on the form provided.

Each Examiner, by acceptance of his appointment as such, shall become bound by the terms of the following declaration, and shall, if required, sign the same in the presence of a Justice of the Peace:

"I solemnly declare that I will perform my duty of Examiner without fear, favor, or affection or partiality towards any candidate, and that I will not knowingly allow to any candidate any advantage which is not equally allowed to all."

Moved by Dr. Magee, seconded by Dr. McInnis, That at each examination the candidate shall be allowed three hours on each paper. Not more than two papers shall be written in one day. Carried.

Moved by Dr. Magee, seconded by Dr. McInnis, That the clinical examination shall consist of: (1) The insertion of one gold filling; (2) the preparation and filling of the canals of one tooth; (3) the construction and insertion of one porcelain inlay; (4) the presentation of one porcelain crown, of one bridge, of one full denture, upper or lower, on vulcanite, articulated; (5) making diagnosis in orthodontia, suggesting treatment, including appliances and how to retain when reduction is complete. The candidate may construct the presentation work at home, but must furnish a statutory declaration stating that

all the work has been done by himself, and in connection with the bridge-work must present a cast showing the conditions existing before the work was begun. Carried.

Moved by Dr. Abbott, seconded by Dr. Bush, That the following be the form of certificate issued to all successful applicants for the Dominion Dental Council certificate of qualification:

DOMINION DENTAL COUNCIL OF CANADA.

This certifies that ....., of the Province of ....., having fulfilled the conditions required by the Dominion Dental Council of Canada, in class ....., is awarded this certificate of qualification, and is entitled to all the privileges accruing to him thereunder.

(Sgd.) President .....

(Seal)      (Sgd.) Vice-President .....

(Sgd.) Secretary .....

Carried.

Council adjourned.

Upon re-assembling, with a full representation, it was moved by Dr. Magee, seconded by Dr. Size, That we reconsider the form of certificate to be issued to all successful applicants. Carried.

Moved by Dr. Size, seconded by Dr. Cowan, That the words "in class ....." be struck out of the form of certificate as drawn up.

Moved in amendment by Dr. Abbott, seconded by Dr. Bruce, That the words "Class A," or whatever class is suitable to the person to whom the certificate is to be issued, shall be inserted immediately below the words, "Dominion Dental Council."

The amendment having been put, was declared carried.

Moved by Dr. McInnis, seconded by Dr. Bush, That any of these by-laws may be repealed or amended by a two-thirds vote of all the provinces represented at a regular meeting of the Dominion Dental Council, provided that a notice of the proposed amendment in writing shall have been sent to all the provinces at least three months prior to date of such meeting, or by a unanimous vote of all the provinces represented at a regular annual or biennial meeting, provided at least two-thirds of the agreeing provinces are represented at such meetings. Carried.

Moved by Dr. Bush, seconded by Dr. Magee, That the report of the Council in Committee of the Whole, *re* organization, be adopted, and that the printed and amended forms, together with the schedules attached, be accepted as the constitution and regulations governing this body. Carried.

Moved by Dr. Bush, seconded by Dr. Abbott, That we record a hearty vote of thanks to the Committee on Organization for their labors, and to the Quebec Dental Association for printed copies of the draft constitution. Carried.

Moved by Dr. Cowan, seconded by Dr. Bruce, That a hearty vote of thanks be tendered the R. C. D. S., the Toronto Dental Society, and Toronto dentists in general, for their generous treatment during our visit. Carried.

Moved by Dr. Abbott, seconded by Dr. Bruce, That the election of officers be conducted by ballot without nomination.

The next order of business being the election of officers, the chair appointed Dr. J. B. Willmott as scrutineer. The first ballot was for President, and resulted as follows: Dr. Abbott, 1; Dr. Woodbury, 7. Dr. Woodbury, having a majority of all ballots, was tendered the election. Dr. Woodbury declined.

A second ballot being ordered, it resulted as follows: Dr. Abbott, 6; Dr. McInnis, 2. Dr. Abbott, having a majority of all ballots, was tendered the election, which he accepted. He was thereupon declared elected.

The next election being for Vice-President, a ballot was ordered, which resulted as follows: Dr. McInnis, 7; Dr. Magee, 1. Dr. McInnis, having a majority of all ballots, was tendered the election, which he accepted. He was thereupon declared elected.

The next ballot being for Secretary-Treasurer, a ballot was ordered, which resulted as follows: Dr. Magee, 1; Dr. Cowan 7. Dr. Cowan having a majority of all ballots, was tendered the election, which he accepted. He was thereupon declared elected.

The Council having been legally formed and officered, it was moved by Dr. McInnis, seconded by Dr. Magee, That the report of the Council in Committee of the Whole, *re* organization, be adopted, and that the printed and amended forms, together with the schedules attached thereto, be accepted as the constitution and regulations governing this body. Carried.

Moved by Dr. McInnis, seconded by Dr. Bush, That we adjourn, to meet again at 14.30 K. Carried

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NOVEMBER 17TH, 14.30 K.

Concluding meeting of the Dominion Dental Council, Dr. Abbott in the chair.

Moved by Dr. Bush, seconded by Dr. Woodbury, That a hearty vote of thanks be tendered Dr. Willmott, and that he be made an honorary consulting member of the Council. Carried.

Moved by Dr. Size, seconded by Dr. Woodbury, That the



order of business to be observed at the meetings of the Council be as follows:

1. Roll Call.
2. Reading of Minutes.
3. Notices of Motion.
4. Correspondence.
5. Reports of Committees.
6. Reports of Officers.
7. Unfinished business.
8. Motions.
9. Election of Officers.
10. New Business.
11. Adjournment. Carried.

Moved by Dr. Bush, seconded by Dr. Magee, That the representatives of each Province nominate a Presiding Examiner for that district, and that the name of the nominee be sent to the President by the first day of April in 1906.

Moved by Dr. Woodbury, seconded by Dr. McInnis, That the following gentlemen be asked to accept the position of Examiners, and that they form the Examining Board for the Dominion Dental Council:

1. Operative Dentistry, including Inlays, Dr. Snelgrove, of Toronto.
  2. Prosthetic Dentistry, Crown and Bridge Work, Dr. Hoare, of Wetaskawin, Alta.
  3. Therapeutics, Anesthetics and Materia Medica, Dr. F. W. Barbour, Fredericton, N.B.
  4. Orthodontia, Dr. G. A. Roberts, Toronto.
  5. Bacteriology and Pathology, Dr. Norman Ross, Winnipeg, Man.
  6. Anatomy, Dr. Turnbull, Prince Albert, Sask.
  7. Physiology and Histology (Dental), Dr. A. W. Cogswell, Halifax, N.S.
  8. Medicine and Surgery, Dr. R. J. Reade, Toronto.
  9. Physics, Chemistry and Metallurgy, Dr. H. C. Wetmore, St. John, N.B.
  10. Jurisprudence and Ethics, Dr.——.
- Carried.

Dr. Woodbury, Chairman of the Organization Committee, having submitted a draft of a pamphlet for distribution containing general information, it was moved by Dr. Woodbury, seconded by Dr. McInnis, That the said draft be accepted as a basis. Carried.

The Provisional Secretary submitted his financial statement, which read as follows:

## RECEIPTS.

Receipts (from C. D. A.) .....\$50 00

## DISBURSEMENTS.

Printing Pamphlets .....	\$36 00
“ Circulars .....	4 00
“ Envelopes .....	7 50
“ Slips .....	7 00
“ Letter Circulars .....	1 50
“ Ledger .....	18 75
Typewriting .....	3 00
File .....	1 00
Minute Book .....	1 00
Postage .....	26 00

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\$105 75

Amount due and payable to the Sec-  
retary .....\$55 75

Moved by Dr. Magee, seconded by Dr. Woodbury, That the Secretary-Treasurer be reimbursed from the first money received.  
Carried.

The Council then adjourned.

[These minutes are subject to verbal correction.—EDITOR.]

## Selections

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### THE COUNT SYSTEM IN DENTISTRY.

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Under the heading of "A Peck Measure for a Peck," *Items of Interest* for November publishes the following editorial:

Certain lines of human thought become so rooted in custom that nothing short of an intellectual cataclysm can remove the weeds from the mental garden. In a sense it may almost be declared that man's ideas are largely congenital. The son of a Baptist is a Baptist. The son of a Democrat thinks himself a renegade if he vote for a Republican president. In like manner routine modes of work continue through generations, and he who dares to suggest that the method is wrong is promptly condemned for heresy.

*Antiquated Educational Methods.*—If we imagine the first school, and the first lot of pupils that ever studied in concert, we discover the origin of class work. This initial class, at the end of a year, finding there was more to learn, continued study. A new class applied for admission to the school, and naturally were compelled to begin where the first class had begun a year previously. Thus the class system of schooling was inaugurated. Later, as the stock of learning increased the terms of tuition were lengthened and the number of classes augmented, until finally we have the kindergarten, primary, grammar and high school, the college and the university. In spite of the tremendous advance in pedagogical methods, and the increased intelligence of teachers, the ancient class system and specified periods of study is still maintained. The postulate seems to be: "In the peck of knowledge needed to obtain a diploma there must be four quarts, and each quart must keep you in school for one year."

Measured by this logic, at first there were but two quarts of knowledge to the dental peck; latterly there have been three, and four is widely demanded. Evidently the dental peck must be as large, and take as long to fill as that of any other institution of learning.

*The Argument of the Heretic.*—Occasionally a man has arisen with courage to declare against the system. Such a man of course is a heretic. But the heretic is a stubborn beast, and commonly a surprisingly logical fellow. Some of his arguments are hard to answer; therefore they have been left without reply. But the system has been unchanged. The heretic says: "Why should you compel a man to stay at college three or four years, if he can pass your final examination test in two?"

The answer is prompt: "It is the rule." "But why such a stupid rule?" persists the obstinate heretic. The reply is silence and a glance of pity.

The heretic tries again: "If it requires only four years to teach a young greenhorn both the theory and the practice of dentistry why should it also require four years to teach theory alone, to a successful practitioner, who began without the advantage of a diploma, and who may aspire to have one?" Answer: A shrug of the shoulders.

In other words there is no logic in the contention. It is simply the rule; so many classes; so many examinations; so many months; then, and not till then, the final test, and the diploma. The logical argument that if a peck of knowledge merits a diploma, the man should have the diploma whenever he can successfully fill the peck, is ignored. Congenital lines of thought; habits of generations; arguments of the unintelligent majority, all unite to uphold and retain an antiquated and unjust method of fitting a man for dental practice. If the stupidest man in the class can earn a diploma in a given number of months, it is a manifest injustice to compel the brightest classman to remain at college till that stupid fellow is manufactured into the finished product.

*The Courageous Example of Columbia University.*—The above, of course, is rank heresy, but the editor has been heretical along these lines so long that the ideas do not shock him, however much they may shock others. Just now, however, a powerful factor for reform has been found. No less important an institution than Columbia University announces the abandonment of classes and terms of study. Hereafter there will be no Freshman, Sophomore, Junior nor Senior classes. The price of a diploma is to be 124 points. Each branch of study is to have its equivalent number of points. Examination in any branch may be had at any time, and the points if gained, credited to the student's account. When his score is 124 his diploma will be granted. In other words, whenever the student can satisfy the faculty that he has his peck of knowledge his degree is granted. The race horse will no longer be retarded by tethering with a cab animal.

*The Count System in Dentistry.*—Why cannot this system be established in dental schools? Truly there is no sound argument against it. It will be said first and foremost, that a man should have long training to acquire the manual dexterity alone, which he must have to practice dentistry. To this, the best argument that will be brought forward, the answer is simple. What may be true theoretically in relation to the teaching of a class, may be entirely false in regard to exceptional individuals. If the teachers can establish a test which will accurately measure the manual dexterity needed for dental graduation a specific

term of study and application is unnecessary. Whenever the man can satisfy the test he is entitled to his counts. By such a system there would be no injustice done to any; the measure for all would be equable. Length of time at college would depend upon a man's industry and ability. Applicants with previous knowledge would be justly treated. An old practitioner of dentistry might matriculate, and pass all practical examinations at once, gaining credit for the allotted number of points at the outset. He then could devote all his time to the acquirement of the scientific theories, which was his primary object in attending college. Contrarily the medical graduate might, at his entrance, obtain all the points for medical knowledge, and then devote his time to the infirmary where he would be learning what is strictly dentistry.

Why should not some one of our great dental schools follow the grand example of Columbia, and break away from conventions? Why not have a real peck measure for a peck, and use it? Why not?

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Following are a few letters which we reprint from *Items of Interest* in reply to above editorial :

LETTER FROM THE DEAN OF THE DENTAL DEPARTMENT OF THE  
UNIVERSITY OF PENNSYLVANIA.

Editor *Items of Interest*:

DEAR DOCTOR,—I have read your December editorial with much interest. The problem with which you deal therein is an old one in education and one which has been variously solved. It is one upon which as great a diversity of opinion can be obtained, indeed has been obtained, as upon that somewhat older one "is marriage a failure?"

As I understand your proposition it is to grant advanced grade in course, or grant a diploma of graduation as soon as the candidate can demonstrate by the result of examination that he has attained the requisite knowledge or skill, as the case may be, to pass the examination test; in short to disregard the time element and base advancement in grade or fitness for final graduation solely upon attainment, by which you appear to believe that certain advantages would be gained and equities would be subserved as follows:

The brightest man in college would get his diploma when he had earned it and not have to wait until the stupidest man in his class had also earned his. The practitioner of many years standing would be enabled at once to pass the examination in practice and only have to prepare himself to pass in "theory," which he could do in a much shorter time if relieved of the necessity of doing all the required practical work.

I admit the general justice of the proposition that a man in college should be graduated on his attainment regardless of the time required to secure it, but there are practical difficulties in the way of effectively carrying out such a plan under existing circumstances.

*The Test of Examination.*—The first is the inherent insufficiency of the examination as a test of a man's attainment. You will doubtless at once suggest that the same objection applies to the examination test whether given at the end of a course or at any earlier period. Apparently so, but as a matter of fact a college faculty that has had constant supervision of a student's progress throughout the entire curriculum can apply the examination test much more intelligently and with less chance of error in assaying a student's attainment than the same faculty could without having had the same opportunity for observing the steps by which the student had reached the examination stage.

Again, the successful passing of a final examination is not the only basis upon which the fitness for graduation, under our present system, is adjudged. Back of and as preparation for the final examination is three academic years of drill, training, discipline in logical thinking and manipulative skill. The total result obtainable in these three years of preparation measured in terms of mental culture and manipulative training represent the minimum basis upon which, under present standards, the degree of Doctor of Dental Surgery is obtainable. The final examination is a test and in the nature of an inquiry addressed to the student as to whether he has acquired all that he should have acquired during his period of college preparation. In my opinion, based upon some practical experience in the matter of dental education, a final examination or indeed any examination successfully passed by a candidate is valuable *per se* as evidence only that the candidate was at the time of the examination able to answer a certain number of questions, and in the absence of any other collateral evidence is practically worthless as a measure of a man's fitness to practice dentistry. I know of a case in point where a candidate grossly incompetent has been able by a memory cramming process to successfully pass a licensing examination by a state board. He answered the required number of questions and he passed, but he knows less of dentistry than your office boy. The board is not to blame; they did their duty according to law, but the real fault is in the examination method and popular belief in the fallacy that it alone can be made a measure or standard by which fitness and competency to practice dentistry may be accurately tested.

You will see from the foregoing that I regard the D. D. S. degree not alone as evidence that its holder has passed examinations upon all the subjects that go to make up the recognized

standard dental curriculum, but as evidence of the further and, to my mind, more important fact that he has had the scholastic and practical training during a three years' course in college in order to fit himself to take the degree examination. This, I think, is as it should be.

*Can Faculties be Trusted?*—There is another and more potent reason why your proposition seems to me open to objection, viz., that in view of the strenuous competition both to get and to give the dental degree any relaxation of the present time qualification would open the door for abuses which are now minimized—I mean by this, that if all college faculties were permitted to advance or graduate students at their discretion, then I fear the discretion would in too many instances be irregularly exercised and we would have a revival of the Delavan cosmopolitan business to an extent that would make the printing press and the dental colleges homologous enterprises. I appreciate the injustice of your contention and your proposition appeals to me as fair, but for the foregoing reasons it seems to me to be inexpedient and under existing circumstances unsafe and impracticable. All of which drives me to the same conclusion regarding this matter as was expressed some years ago by a newspaper man with respect to the problem of the failure of marriage already referred to. He said, "Well, it may be a failure but under present circumstances it is about the best arrangement we have."

Very truly yours,

EDWARD C. KIRK,

Dean of University of Pennsylvania Dentist Department.

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#### LETTER FROM THE DEAN OF INDIANA DENTAL COLLEGE.

*Editor Items of Interest:*

DEAR DOCTOR,—Your editorial in December issue has been read. Is Columbia University the first to institute that method? I was under the impression that it had been in operation for several years in certain American colleges and that it had been used for many years abroad. I may be mistaken about this, but I am sure there was much agitation in educational circles along this line some three or four years ago.

In regard to your editorial. There can be no question but that, theoretically, your logic is irrefutable. When the required skill and learning have been acquired, the student should be given his degree. That is axiomatic in its unassailableness from the standpoint of justice and fairness, and it is not until the practicability of the student's acquiring that information and skill in less time than the course now demands, is touched upon, that any fair-minded person can raise an objection to it.

*Difference of College Methods.*—In colleges of liberal arts, where the student is privileged, within certain limits, to elect his subjects, all of which lead toward a degree, the school year is divided into two, or more often, three semesters and, the professors devoting all their time to teaching, in many of these subjects new classes enter on the study with the beginning of each semester. For illustration, lectures on a course in logic, or ancient history, or what-not may begin with the opening of the first semester in September and those same lectures be repeated in the second semester, thus enabling a student who finds the time to do so, to begin his course at the commencement of the second semester. This repetition of courses in the college year makes it possible for a student to take up new work as soon as he has laid down some of the old.

That method of presenting subjects is impossible in our dental colleges until we have faculties made up entirely of teachers devoting all their time to the work. The expense of this is too great for most of our colleges to undertake. Give us liberal endowments so that competent men may be adequately recompensed for devoting all their time to educational work and that objection will be eliminated.

*Sequential Teaching Necessary.*—The above is so closely related to another objection occurring to me, that it is difficult to view them separately. I refer to the inevitable sequentiality of a course in dentistry. To illustrate. Before the student can pursue physiology to the best advantage, he should have completed histology, and before entering on pathology he should have completed physiology. The successful pursuit of the one study depends on a previous knowledge of the other. And the illustration may be carried further. Therapeutics is based on a knowledge of physiology. Bacteriology should be preceded by anatomy and physiology. In the college I have the honor to represent, our courses in operative and prosthetic dentistry are carefully graded with the idea of leading the student from one part of the subject to others in an orderly and systematic manner. A comprehensive knowledge of any part of the subject can only be had after a knowledge has been obtained of all that precedes that part.

Now, granting for the sake of argument, that certain students are capable of proceeding much faster than others, and I grant that fully, for I know it to be true, I am of the opinion that even the brightest of them would not be able to do satisfactory work under our present methods of teaching, or, in other words, we are now straight back to my first objection. Again to illustrate. Suppose a Freshman, under our present graded system where the study of anatomy begins with a definition of the term and is progressive through the first and second years, concludes to double on Freshmen and Junior anatomy. Can



you not see the absurdity of the situation? Without the slightest knowledge of the subject he attempts junior work that really requires a year's previous training to properly understand. Now suppose we had a college where the first semester's work in anatomy was duplicated in the second semester by another class and where the second semester's work was also duplicated in the first semester. For a very bright student to attempt both first and second semester work in the first semester would not be so great a task and he would have a fair opportunity to keep up the work in both classes.

Now, my dear Mr. Editor, this has been hastily written and when it is read it may be not only written but rotten; but I am sure there is a thought concealed about it somewhere. I know of other arguments that might be advanced but have neither the time to detail them nor the heart to inflict them on you. The necessary sequentiality of a dental course as compared with a course leading to the Bachelor of Arts or of Science degree, and the fact that each session's work is presented but once in the fiscal year, leads me to conclude that doubling up on the studies cannot be attended by satisfactory results. Q. E. D.

GEORGE EDWIN HUNT,

Dean Indiana Dental College, Indianapolis, Ind.

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#### LETTER FROM THE CINCINNATI DENTAL COLLEGE.

*Editor Items of Interest:*

DEAR DOCTOR,—Your editorial entitled "A Peck Measure for a Peck" appearing in the December number of your worthy journal has struck a sympathetic bell in my heart. It is not a new bell, but a new ring of an old bell that has long been sounding the tocsin of truth to my inner consciousness, not oblivious to the right and true tenet of dental education, but possessed of a fearlessness that I might be called something worse than a "stubborn heretic" should I expose my thoughts to public view.

I have long since comprehended the utter impossibility of justice by the method employed by dental colleges in grading students and *diplomafying* them. As the head of a "great," even if small dental college. I have often blushed at my execution of justice in grading students who applied for admission for advanced standing, prostituting my position as Dean of the school and as an honorable man just because it was the rule. The rule why? Only because the colleges banded themselves together, and they must have a code of rules for the purpose of keeping each other honest. So for many years back the dental colleges have been, and are to-day, throttling blind justice and

allowing distrustfulness of each other to inflict hardships and unmerited punishment upon talent, thrift and industry.

The majority of us believe that the good live and the bad must die. If this precept prevails at all, it follows as "the night the day" that the present system of grading in dental schools must die because it is based upon distrustfulness, a quality that has existence only in the minds of corrupt men. Caution should exist as it is one of the requisites to the preservation of life. As we all recognize the wisdom of making laws, so also do we acquiesce in the appointment of police to curb and arrest law-breakers; these laws and officers, however, do not harass the good, impede progress nor inflict penalties upon progressive citizenship. This is just what our present grading laws in dental schools do. A practitioner of fifteen or twenty years' experience who could repeat word for word all the recognized textbooks of dentistry and allied sciences, with perfection in dental skill and manipulation, would be graded as nothing else than a Freshman in any dental school of this free country; and should some Dean, burning with a sense of justice, do otherwise, the narrow gate which leads to the broad meadow of public practice would be barred and sealed by that august body, the Dental Board of Examiners, whose mission seems to be not only inquiry into the ability of dental graduates, but of the degree of honesty of the dental college faculty, that has placed its seal of approval upon the student after patient teaching and tireless investigation as to his acquired ability. Yes, Mr. Editor, you are right and this right like all other right will prevail. Our students must not be sentenced to do time, but work, and when that work has been done they should not receive a stunning blow with a policeman's billy because they did not do the work in a dental college nor because they had the talent, intellect or industry not to have spent three or four years in accomplishing it. In business, men receive the emoluments financially and intellectually of their thrift and industry. Professional students have the same rights to convert their time and brain into cash. A change of "conventions" and "filling of the peck measure" is not so difficult, but I believe not one school but all the dental schools should co-operate in the consummation of such a condition.

*National Commission Proposed.*—A general and unbiased commission for the entire United States might be established. This commission should pass on the degree of knowledge of all dental students and those contemplating becoming such as attached to our dental colleges, and then let the student select the dental school in which he desires to continue his studies if unfinished or if already qualified, to receive his diploma. This commission could be selected by the State societies of the various States. Small changes in the State laws would conform them

to this condition of affairs, State boards would no longer be necessary nor desirable and the diplomas of good schools would be sought, and would have a distinctive meaning of honor and credit to the holder instead of being an article of suspicion and distrust. Many of the best schools of the Old World admit students to matriculation, and it is almost a matter of indifference or of little consequence whether the student ever enters the college building; but when the examination or test comes the student must reproduce the knowledge that his school has been inculcating in order to get a diploma, and the test is so exhaustive that no doubt remains at the end of it. I congratulate Columbia College on the progressive step which she has taken, and I know that she has the means and the influence to maintain her position. Dental colleges will first have to enter into a struggle for independence and hammer off the shackles which they have helped to forge upon themselves for the past few years, by lending their aid and influence in passing foolish and impracticable dental laws in their false manifestation of interest in dental progress. The time is ripe now to strike, and I hope that they will do it.

E. S. JUNKERMAN,  
Dean of Cincinnati Dental College.

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#### LETTER FROM THE DEAN OF MILWAUKEE DENTAL COLLEGE.

I am asked to express my opinion on the change adopted by Columbia University looking toward the abolishment of the class system as applied to dental education. The thoughts promulgated in the able editorial which appeared in *Items of Interest* for December have stimulated me to submit the following observations:

The first requirement for the general adoption of this plan of advancing students according to merit regardless of time is, that a school adopting this plan should be strong enough to wisely and justly administer such a dispensation in special cases, regardless of financial considerations. Unless such a condition of strength exists when based upon meritorious work done in the past, the cause of education it seems to me will not be advanced.

In Columbia University the element of strength referred to does exist; hence the conditions are favorable for a fair trying out of this new plan. We may speak of it as a new plan and yet the underlying principle which supplies the motive for the change is not new, and is evidently based upon the principle of common justice. In other words theoretically a student who satisfies the test applied by the faculty, and undisputably comes up to the standard of requirements should be advanced, assuming of course that this is done under proper restrictions.

Now the question comes up—can the merit system of granting advanced standing to students in dentistry, without the limitations of time, be adopted by dental colleges in America without retarding the advancement of dental education? In considering this question fairly, it is necessary to bear in mind that dental colleges depend upon the income derived from students' fees for meeting their current expenses. This is quite universally true with but few exceptions. Very few university dental schools, if any, are supported to any great extent from the University Endowment Fund. Therefore it naturally follows that the question of finance cannot be eliminated in this connection. How much of a factor this would be in maintaining a high standard of dental education in all cases would of course depend upon the honest administration of this policy by the individual schools.

I very much fear that the granting of advanced standing to students by dental schools, with no further restrictions than the judgment of the faculty, might at this time be open to criticism. I believe the time will come when unusual aptitude on the part of a student will be recognized by dental colleges in granting advanced standing. However, in my judgment, we are not ready for so radical a departure from old established educational policies.

The effect upon the public mind of so radical a change must also be considered. This is especially true in the case of professional schools. In trying to elevate our professional status the public must be taken into account. The facts upon which a school would justify its determination for a dispensation in special cases would of course not be known nor understood by the general public. That it was done might and probably would result in adverse criticism.

It may be urged that the effect on the public mind is merely a psychological proposition, is transitory and of no material importance in this connection. This I am not willing to concede.

We are constantly trying to stimulate mature deliberation, and a desire for ripe judgment in our educational policies. Let us hold fast to that idea in outlining future policies. Academic training is one thing, but technical training is quite another. I question the wisdom of extreme methods in technical training.

Columbia University is adopting an extreme policy. The National Association of Dental Examiners has adopted an extreme policy with respect to dental colleges and dental education. In time I believe we will adopt the middle road, and that the simple rule of justice based upon good sense, resulting from practical experience will apply to all interests. As an instance of extreme measures I cite the Wisconsin case.

*The Wisconsin Case.*—The students in question had completed a full three years' course of study. Had stood every test to the satisfaction of the faculty. Notwithstanding this, the

"Rules and Regulations of the State Board" forbade the graduation of these men. The college complied with the order of the board and did not graduate the students. At a subsequent session of the board the college was declared not reputable for having *intended* to confer the degree of D.D.S. upon the students in question. Under such conditions one might be pardoned for advocating the change adopted by Columbia University. This would of course only be making use of this theory in its local application.

In the broad sense, however, mindful of the various interests that appeal strongly to me now, I should deprecate the adoption of any radical changes in our system of dental education.

H. L. BANZHAF,  
Dean Milwaukee Dental College.

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LETTER FROM THE DEAN OF THE DENTAL DEPARTMENT OF  
WASHINGTON UNIVERSITY, ST. LOUIS, MO.

Editor *Items of Interest*:

DEAR DOCTOR,—Replying to your communication in which you request that I consider your editorial in the December number of the *Items of Interest*, will say that my opinion is very much in line with the thought expressed by the editorial, and that I have, for many years, held this opinion.

I have always thought that the enforcement of the laws, governing the entrance of students to the dental schools of the country, did not do justice to the man, who had previously perfected himself in many of the branches required in the dental curriculum.

A breaking away, at this time, of any one school, in order to take up this work, would create a disturbance in dental teaching, that would demoralize the work to a considerable extent. But, if we succeed in carrying out the suggestions offered by the Committee on Schools of the National Association of Dental Faculties, found on pages 17 to 24 inclusive, especially the last paragraph of the proceedings of 1905 of the meeting held at Buffalo, July 27-28, we will, doubtless, be able to make provision for the graduation of such men, as you referred to, in very much less time than would be required at present, by the application of the count system.

If this Board of Regents can be organized by agreement of the three bodies mentioned in the report (the preliminary steps to its organization, taking place during Christmas week in your city), I believe the matter can be adjusted to the satisfaction of all, without creating further disturbance in dental teaching.

There have been so many efforts made to increase the cur-

riculum, as well as the time requirement, that the subject has been in a very unsettled condition for a long time. It was hoped, at the close of the meeting in Buffalo, that, at least, for a few years, there would be no further effort to change the standard adopted at that meeting, and, yet, taking into consideration the many changes and vicissitudes through which those interested in dental education have passed through the efforts of the N. A. D. F., as compared to the standard of twenty years ago, we must acknowledge that, while all has not been accomplished that might have been wished for, yet much good has resulted to the profession from the work of the N. A. D. F.

Yours truly, J. H. KENNERLY,

Dean of the Dental Dept. of Washington University.

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LETTER FROM THE DEAN OF THE UNIVERSITY OF BUFFALO,  
DENTAL DEPARTMENT.

*Editor Items of Interest:*

DEAR DOCTOR,—I very cheerfully comply with your request for my opinion of the ideas advanced in the December *Items of Interest* upon the subject of dental education. It seems to me that the present state of affairs has grown with the advance of the profession. When dental colleges were first instituted, when attendance upon two terms of instruction of four months each was thought to be enough to impart a sufficiently thorough knowledge of dental science to the student, there was an allowance made for previous office experience, and those who could make it appear that they had been in the practice of dentistry for five years were allowed to graduate after receiving one term of college instruction. But there were offices and offices; some good, and some very, very poor. There was also a disposition among students to stretch the truth, and many who proved to be wholly incompetent upon trial in the colleges, stoutly averred their possession of five years' office experience. The result was that the concession was abandoned.

At the period mentioned there was a call for teachers in the dental colleges, and there were but few graduates. These were, of course, young and inexperienced. But few of the older practitioners had studied medicine, and many of them, of conceded ability, were self-taught. When one of the latter class was wanted as a professor in a dental school he received an honorary degree, and became a D.D.S. solely on his well-earned reputation. But the time passed, long ago, when there was any necessity for such procedures, and to-day there is a strong sentiment against the conferring of honorary degrees in dentistry. Now each state has its dental law; and this represents the consensus of

opinion among the dental profession of the State. The qualifications to be possessed by those seeking to enter into practice in a certain state are prescribed by the law, and are formulated by the dental profession of the State. And instead of the restrictions being antiquated they have advanced with the times and are still growing.

And in the main these restrictions are wise. They may bear hard upon certain individuals, but where is the law which does not, sometimes, work a hardship? All such rules are made for the many, and cannot be specialized to fit individual cases.

*The Medical Graduate.*—Taking the State of New York for an example, the law provides that a graduate in medicine shall have an allowance of one year, and as the course is set at three years, he can obtain a dental degree by attendance upon two terms of instruction in a dental college. He is excused from taking up, and reviewing, most of those branches of study which pertain to both medicine and dentistry, and the time is accordingly shortened. But some of these studies are specialized, and must be reviewed if the medical graduate wishes to gain a thorough knowledge of dental science. He may have a good knowledge of pathology, as it is taught in medical and surgical schools, but there are many things in dental pathology which he would still be obliged to learn. The same is true of anatomy or chemistry. When they are taken up as a part of a dental education they are not exactly the same as when medicine is studied. In fact, it would be impossible for a graduate in medicine to devote all his attention to the manipulative side of dentistry, and be thoroughly educated in dental science. And two years is certainly a short enough time for anyone, without previous experience, to attain the degree of manipulative skill imperatively demanded by the exigencies of a dental practice.

*The Dental Practitioner.*—The old dental practitioner would be very likely to find some things taught in the college infirmary which would be of advantage to him. There are many ways of accomplishing the same result; and one accustomed to the routine of office practice may not always know all that there is to be learned of manipulation.

Allowances are often made to students who show that they have mastered certain subjects, and so they are given more time to devote to other matters in which they are deficient. And when these allowances are all made the three-term course, now extant in New York, is none too long. The cases where the compulsory attendance upon three terms has worked a hardship, are so few that they need not be taken into account. The cases where a compulsory attendance for four terms is absolutely necessary for the attainment of the knowledge and skill which a doctor of dental surgery should possess, are many. A course of four terms, without any allowances, would work a hardship in

some instances, but less than three terms would be wholly insufficient to cover the present dental curriculum.

*Value of Examinations.*—There is a serious objection to be raised to the idea of passing a student on examinations, such as you propose. The examination should be very thorough indeed, much more so than those usually given, to show a full understanding of a certain subject. And the usual method adopted by students of preparing for an examination, that of "cramming," of sitting up nights to read up, only results in getting a temporary grasp of the subject, and loading the mind with a lot of facts which are often forgotten almost as soon as they are acquired. The routine of the class room gives the attentive teacher a good idea of the capabilities of the student, much better than can be gained by an examination of the ordinary kind. And it is questionable whether the examination and count system will be a success. It is better to wait until it has been tried.

A thorough education in dentistry means a great deal. There must be manipulative skill. There must be the memorizing of certain facts, in many subjects. And there must also be experience, to give a clear perception of the correlation and bearing of these facts upon one another; the result being the judgment through which they are applied to the case in hand, and by means of which the correct operative procedures are determined. Manipulative skill is thus made available and invaluable, but without previous training, thought, experience and judgment it may work more harm than good.

The scope of the student's endeavor shall not be limited to a hurried effort to attain barely sufficient knowledge to enable him to pass certain routine examinations. Much more than that is required for a foundation upon which he may afterwards rear the structure of an honorable professional career. The ethical development which he receives by his three years' sojourn within the walls of a well conducted educational institution is a matter only secondary in importance to that of his technical education in his chosen profession. The time so spent is none too long; in many instances, it is not long enough.

Yours very truly,                      GEO. B. SNOW.  
Dean of the University of Buffalo, Dental Dept.



## WHAT IS A PATENT MEDICINE?

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That most so-called "patent" medicines are not patented at all, will be apparent to anyone seeking information on the subject. The name, as popularly used, denotes such proprietary medicines as are sold direct to the public, especially such as are made from secret formulæ. Says an editorial writer in the *Journal of the American Medical Association*, Chicago, December 16:

"Proprietary medicines are those which some one owns; those that are the property of some one. Their ownership or proprietorship is held in two ways: (1) By a patent, or (2) by a trade or copyright name.

"1. PATENTED MEDICINES.—A patented medicine is one on which a patent has been granted. This requires that a full description of the article be filed with the Government, which description can be obtained by anyone for 5 cents by writing to the Patent Office. These are non-secret (patent means open); and the protection lasts for seventeen years. Some of our better preparations were patented, such as antipyrin, sulphonal, lanolin, but the patents have now expired. So long as the patents were in force these preparations were 'proprietary medicines.' Phenacetin is patented, the patent expiring next March. Until then it will be a 'proprietary medicine.' Alphozone, acetozone, thiocol, creosotol and other well-known remedies are patented medicines, and therefore proprietary. There is no objection to them, if they are advertised and marketed in an honest way.

"2. COPYRIGHTED OR TRADE-NAMED ARTICLES.—The vast majority of the preparations on the market in this country come in this class. They are proprietary in that the name given them is owned and controlled by some one. The name is the thing in this case. Nearly, but not quite, all the preparations that are sold under trade names are to be condemned because the composition is secret in character. If the composition is known, and if the remedies are honestly exploited, they are not necessarily to be condemned. One serious objection applies to all copyrighted or trade-names—they are a perpetual monopoly. A patented article becomes public property after seventeen years, but a trade-name article never does.

"'Patent medicines' come in this class, the term being used to designate those advertised and sold directly to the public. The name, of course, is a misnomer, for they are not patented medicines. We suggest that the words 'patent medicines' be always placed in quotation marks when the proprietaries advertised to the public are meant, so that there may be no misunderstanding.—*The Literary Digest*.

## GRINDING AND BACKING FACINGS.

BY DR. BUSH JONES, DALLAS, TEX.

In nearly every bridge I see, involving the bicuspid, I find the facings are ground flat, cutting the entire porcelain cusp off, giving, in my opinion, a very unnatural appearance and exposing an undue amount of gold.

I grind and back my bicuspid exactly as for a cuspid, flowing over the backing 20-karat solder, letting the backing extend over the incisal edge sufficiently to insure its not being broken by mastication.

Having placed it in position, I select and swage a cap, using 24-karat gold plate, 36 gauge; this cap I adjust on my bridge, letting the incisal edge of the facing extend into the outer cusp of my cap. I then burnish these as closely as I can, and tack them together with wax, and in some cases I remove this facing with the cap in position and fill cap with 18-karat solder, soldering it also to the facing, but usually I burnish the cap to the facing, and unite them when I solder the parts of the bridge together. In this way I am sure to get a much prettier piece of work, and I am confident that it is equally as strong.—*Texas Dental Journal*.

## HOW TO SHARPEN GATES-GLIDDEN DRILLS.

BY DR. FERNANDEZ.

With the use of a piece of oilstone shaped like a pocket-knife blade (say three inches in length and with a sharp edge) it is a comparatively easy matter to bring in turn each blade of the drill to an edge—examining the drill frequently during the process under a magnifying glass.

It is essential to good work that the stone edge be kept sharp. To accomplish this obtain a piece of hardwood, say three inches long and two inches in width, making sure that it is straight and perfectly level. Now take a strip of sheet lead two inches wider than the wood, but the same length, or longer, so that it may be continued over each end; tack it over the sides and ends (if necessary) to the wood, having adjusted it evenly. Upon the surface thus formed sprinkle some No. 1 emery, and rub the stone lengthwise without oiling or wetting the surface. To keep the stone in perfect condition this process should be continued after every dozen drills. As to the time required for sharpening the stone, three minutes usually suffices.—*Dental Cosmos*.

### **Proceedings of Dental Societies**

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#### **DENTAL FACULTY OF BARNES UNIVERSITY, ST. LOUIS, RESIGNED.**

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On account of the refusal and alleged financial inability of the Board of Trustees of Barnes University, St. Louis, to furnish the Dental Department of that institution with demonstrators necessitated by the requirements of the Missouri State Board of Dental Examiners and the National Association of Dental Examiners, and with the apparatus and equipment necessary for the proper and legal teaching of dentistry (such as electric current, nitrous-oxide gas apparatus, etc.), Doctors B. L. Thorpe (Dean), D. O. M. LeCron (vice-Dean), Richard Summa, Val. H. Frederichs, W. F. A. Schultz, C. O. Simpson (Secretary), E. E. Haverstick, E. P. Dameron and W. Y. Eckhart, of the Dental Faculty, resigned December 16th, the resignation taking effect December 23rd, 1905.

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#### **NEW YORK STATE DENTAL SOCIETY.**

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The thirty-eighth annual meeting of the New York State Dental Society will be held at Albany, N.Y., Friday and Saturday, May 11th and 12th, 1906. Saturday afternoon will be devoted exclusively to clinics.

Any ethical member of the profession having anything of interest to present, or desiring to clinic, will kindly communicate with the Clinic Committee: F. Messerschmitt, Chairman, 1023 Granite Building, Rochester, N.Y.; W. D. Tracy, 46 W. 51st Street, New York City; G. B. Mitchell, 448 Porter Avenue, Buffalo, N.Y.; G. A. Sullivan, 18 Dove St., Albany, N.Y.; F. W. Proseus, 238 Monroe Avenue, Rochester, N.Y.

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THE old reliable Lawrence amalgam in celebrating its 60th birthday takes occasion to thank its many friends the world over for past favors. The Lawrence amalgam relies almost wholly on merit, but after more than half a century's successful duration, it is deemed time to speak out; not only to thank its friends for past patronage, but to respectfully solicit a continuance of the same.

# Dominion Dental Journal

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3 COLLEGE STREET

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## ONTARIO DENTAL SOCIETY, MARCH 12, 13, 14.

As years go on the attendance, the enthusiasm, the good-fellowship and the scientific aspects of the Ontario Dental Society increase. If there is one thing Ontario dentists ought to be proud of it is their annual meeting. In 1894 there were twenty-six members in attendance, in 1905 there were two hundred and twenty-six. There is no society which attends more strictly to its own business. There is no time lost in vain-glorious speeches, or routine business, or quibbles about points of order. Every one comes for business, attends to business, and goes home feeling that he has learned something. This year there will be no change in the general plan of the meetings—short, well-thought-out papers, carefully prepared discussions, numerous clinics, a banquet, and one or two special features. At the last annual meeting Dr. Cummer exhibited all the most

recent appliances used in a dental laboratory. This year about ten or twelve of the most recently fitted up dental offices in the vicinity of the college will be open for inspection. No two dentists have like ideas or conditions for fitting up an office, which makes it a great advantage to anyone to see as many offices as possible. Dr. Robert Good, of Chicago, will read a paper on the "Treatment of Gingivitis and Consequent Loosening of the Teeth." He will also clinic. Dr. Pessa, of Philadelphia, will lecture and clinic on removable bridgework. Dr. Roberts will give a lantern talk on the results of improper extractions. Dr. Gowan will give a paper on tooth brushes, their forms, uses and abuses. In this connection there will be ten different dentists demonstrate how they brush and clean their own teeth. Other features of the meeting will be worked out as time goes on. The preliminary notice will be out shortly.

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### **For Sale.**

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Dental practice in the best city on the Pacific coast, doing a good all-round practice. Advertiser is retiring from practice, as other interests employ his entire time. Office is equipped with electrical appliances, good chairs and furniture. Will sell for \$1,000. Will stand closest investigation.

Address, DOMINION DENTAL JOURNAL.

# Dominion Dental Journal

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## Original Communications

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### TOOTH-BRUSHES, THEIR PROPER FORMS AND USE, INSTRUCTION OF PATIENTS, ABUSES OF MOUTH AND TEETH, ETC.

BY W. C. GOWAN.

To be read before the Ontario Dental Society, March 12th, 13th, 14th, 1906.

Whereas man in his primitive state fed upon coarse foods that left upon the teeth little or no residue as a culture medium for bacteria and therefore suffered little from caries while modern civilized man uses food which leaves a residue that must be regularly washed away to protect the teeth from caries. Exercise upon coarse foods in man's former state developed strength in the tissues that supported the teeth and maintained a normal tone in the gums. Voluntary interference to preserve the health of gums or teeth was then unnecessary, now it is necessary, hence we are called upon to decide what that interference shall be and how patients may best be taught to carry it into effect.

In order to care properly for his teeth a patient should know their form, position and appearance, so far as a hand-mirror and a tooth-pick enable him to see and feel them. He should be able to recognize for himself by means of feeling as well as sight the differences between clean and dirty teeth, healthy and unhealthy gum. He may be told the reason why decayed teeth will not take care of themselves, and shown that caries does not begin on sound enamel kept constantly clean, and that cleanliness is the only known preventive of caries, and other diseases of mouth or teeth. He should know the areas upon the teeth most liable to attack of caries, and some of the more common and assured results of neglect or abuse of gums or teeth, losses by extraction and injuries caused by abscesses. He should know the proper form and use of the tooth-brush, tooth-pick and lotion adapted to his case.

Less than this would be insufficient knowledge to guide a patient's efforts toward the end in view or convince him that the means are proper and necessary.

Elementary instruction in the foregoing matters must be given by the dentist who should first consult the patient's interest and willingness to receive a lesson of the kind proposed. Words alone are not sufficient, so recourse must be had to demonstration, observation and performance.

Let the patient see his teeth by means of a magnifying hand-mirror. Point out to him the different appearances of clean and unclean teeth, healthy and unhealthy gum, carious areas and sound areas upon the same tooth, spaces and pits in which decay most commonly begins, their tendency to retain food, debris, etc. Such observations increase a patient's knowledge, persuade his understanding and guide his efforts more than exhortations or lectures ever do.

While cleaning a patient's teeth call his attention to the nature and position of the deposits, the injury they do and the means to prevent their accumulation. When you have finished your part of this operation put in his hand a brush of proper form, provide him with water, and request him to proceed. You will see immediately wherein he needs instruction.

With your own brush demonstrate in your own mouth the movements suitable to one group of teeth, and one side of them. Compel him to imitate. Correct his hold of the brush and style of movement until you have him working according to principle, however slowly or awkwardly. In the same way demonstrate for each side of every group in turn, and have him imitate. By question, comparison, and the use of the brush upon a model compel his attention to all essential particulars of proper brushing.

If tooth-picks are indicated in the case, produce one and teach where, how and when to use it. State emphatically how often daily, and at what times he shall clean his teeth, but give only such directions as the particular person can follow.

Clean, cold water, in liberal quantity, is the proper lotion in brushing the teeth, after all hard calculi have been removed. Cold water is an agreeable and wholesome stimulant to the mouth. It is the most universal detergent and solvent of acids known. It is harmless, always at hand, and for a healthy mouth and normal teeth already free from hard, foreign matter quite sufficient. Calculi cannot accumulate upon enamel daily brushed with water. Acids and the soil from which bacteria elaborate them are better removed by water than by any other lotion permissible in the mouth.

The objections to any powder, paste or drug, for general or indiscriminate use, are many and important. The pernicious doctrine that so-called antiseptics will prevent decay of teeth and

disease of other oral tissues readily leads a patient to depend on these instead of that liberal washing with brush and water upon which everyone ought to depend. Habitual drugging of the mouth may be a popular folly, but it is a useless and injurious practice, not to be countenanced by the dental profession.

The use of grits may be limited to such cases as the following: To remove all that remains of hard foreign matter from the enamel after the work of steel scalers is done in a case formerly neglected or in bad condition. Prescribe fine powdered pumice on a wet tooth-brush, to be repeated until the enamel is clean. Each daily application of this to be followed by thorough rinsing of the mouth with brush and water. For surface discoloration due to smoking, tobacco-chewing, certain foods or medicines, to clean abraded enamel, amalgam fillings, etc., prescribe for occasional use a paste made of precipitated chalk and (questionably) a mild soap, but containing no such drugs as formaldehyde, bichloride of mercury or essential oils in such strength as to irritate. The mouth to be carefully rinsed to remove all traces or taste of the dentifrice.

For boys or girls whose enamel cuticle is yet perfect, whose teeth are uninjured by filth, neglect or abuse, prescribe no powder or paste at all. Water, with careful daily brushing, is the ideal treatment for such cases.

Enamel cuticle, the densest, hardest, smoothest, most resistant part of enamel to attack of any kind, is most easily kept clean. This cuticle is very thin, and undoubtedly can be cut away by the daily use of grit upon a brush. Its destruction or removal impairs the appearance of the tooth and its resistance to attack.

No powder, soap, or drug can possibly benefit an already healthy mucous membrane. But insoluble powder of any kind, by lodging between the gingivae and the necks of the teeth, and irritant drugs or soaps upon the mucous membrane, can and do work injuries. It must, therefore, be concluded that except upon clear therapeutic indication no drug should be used in the mouth, and no powder or paste, except upon special indication as before mentioned.

Engine polishers, cups, brushes or points with pumice, are not to be used upon uninjured enamel. These are devices of doubtful merit at best, and often do more harm than good to both gums and teeth. They are, moreover, unnecessary, for a tooth-brush with pumice will do the work better and more safely. Eroded or otherwise injured areas of enamel, where accessible, may be brought to a good finish with Arkansas stone points wet with a paste of tin-oxide and lanolin, as used by C. N. Thompson to polish porcelain.

Tooth-brushes of different forms and sizes must be prescribed for different cases, as no single form will suit all. Age of



patient, condition of gums, form, regularity and number of teeth present must be examined to determine the form of brush most suitable. On principle, however, the correct brush for any denture is the one most easily made to reach the largest surface area of all the teeth in it. This dictum pre-supposes a form that in use will penetrate the inter-proxymal spaces, so far, at least, that by alternate application from the buccal and the lingual all the approxymal surface of each tooth will be reached, or as nearly so as other necessary features of the brush will allow.

A brush adapted to this requirement will effectually reach the pits and sulci of molars and bicuspid.

The bristles of a brush should not be so fine as to become matted by use nor so coarse as to abrade the gum. For normal regular dentures the tufts of bristles should not be too far apart to hold water between them by capillary attraction, nor so close together as to prevent penetration of interproxymal spaces to half their depth. The transverse rows of tufts in all brushes should be chamfered, giving a serrated face to the brush. The coarse bristles marked H by makers abrade the gum, finally

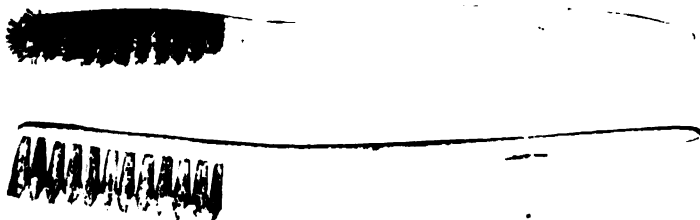


FIG. 1.

exposing the necks of the teeth. They should not be used. Women, young people and children may use the finest bristles that will work without matting. They are more pleasant and efficient, and less injurious than the coarser grades. For men who smoke, or chew, or sometimes neglect the teeth for a day or two, grade M may be prescribed.

The back of a tooth-brush in which the bristles are set should be no larger in any way than is necessary to hold the bristles. All angles upon it should be rounded and smooth. The end should project no more than 1-32-inch beyond the bristles. This permits the use of longer bristles, and better access to the distal surfaces of third molars, and protects the mucous membranes rubbed by the back of the brush from irritation.

The form of brush adapted to the largest number of cases, and, indeed, correct for all normal regular dentures, is that shown in Fig 1. It should be made from the smallest baby's to adult sizes, of bristles from the finest to M.

The straight serrated face of this brush allows a fair adapta-

tion of it to all the teeth, and penetrates pits and spaces well. It has body enough to hold the maximum of water, and give the necessary friction.

The curved handle (which ought to be more round and thick) is adapted to proper thumb-and-finger holds, which in turn are necessary for gentleness, elasticity and rapidity of movement. It is adapted also to rapid changes of hold and neat immersion of brush in water. It does not tend to rotate. The elliptical form of the back permits a comfortable adaptation of the brush along the external oblique line toward the ramus, and to the lingual aspects of all the teeth.

For special cases, irregularities with spaces hard to reach or devoid of gum, denuded necks, gaps from loss of teeth, a brush with extra widely separated tufts, like the Arrington, may be found most suitable. In cases of marked inward inclination of the lower incisors a brush with very short body and long bristles, or one of the form shown in Fig. 2, may be prescribed in addition to the regular form seen in Fig. 1. Peculiarities calling for



FIG. 2.

yet other forms of brush may be found; but they are rare, and may be left to the judgment of the man in charge of the case.

Brushes of suitable sizes and fineness should be prescribed for children; their daily use to begin so soon as deciduous teeth appear. If not removed, milk, sugar and other ingredients of infant food may form a culture medium about the teeth. The habit of maintaining cleanliness of the mouth cannot begin too soon.

To promote oral cleanliness teach the method of brushing most easily learned and effectively practiced in the shortest time, as follows: With face inclined over a large basin or a stream of water, and brush held as in Fig. 3, carry all the water it will hold to the labial and buccal aspects of the teeth of the left. Apply enough pressure to make the bristles divide upon the teeth and enter the spaces between them, performing very short rapid strokes by action of the forearm and wrist-joint. Let the water pass from the brush through the spaces and into the mouth, from which immediately eject it while wetting the brush for repetition. Repeat frequently, ejecting the water while refilling the brush, until you feel you have refreshed and cleaned the gums and teeth,

upper and lower, from the right cuspid to the last molar on the left, and have felt the bristles enter all the spaces.

Hold as in Fig. 4 to brush the right buccal, and as in Fig. 5 for the grinding and the lingual aspects of the lowers, releasing the thumb and modifying the attitude of the hand for the different positions upon the denture.

Fig. 6 is for the grinding and the lingual aspects of the uppers. Release the index finger when brush is applied to teeth. To clean third molar turn hand well to opposite side.

Variations of these holds of the handle are optional with the individual, but the rapid gentle elastic character of the movements, the abundance of water frequently introduced, and as frequently ejected, the pressure to make the bristles enter spaces, sulci and pits, and the rinsing of the mouth with as much water as it will hold, to finish are to be insisted upon as essential.



FIG. 3.

Point out to the patient that until he has acquired dexterity by practice he cannot expect to properly cleanse the mouth in less than five minutes.

This procedure will remove from about the teeth all freshly precipitated calculi and food debris, and leave the enamel clean. What more is wanted? Attempts to "polish" normal enamel cuticle with grit, or "sterilize" the mouth with drugs are, on the face of the matter, ridiculous. Cuticle has a better surface than grits can possibly give it, and drugs that destroy bacteria will, in all probability, destroy the highly organized cells of the soft tissues much more readily. And if the food debris—the raw material from which acids are elaborated—be removed, what then is the object of "sterilizing?" If clean water without drugs was good enough as a lotion in Japanese army surgery—the most successful in history—will it not probably suffice to wash a healthy Christian mouth?

To resume.—The brush is moved across the teeth upon their

buccal and labial aspects where their contact points, shortness of crown, and the obstruction offered by prominence of alveolar process render longitudinal strokes ineffective or harmful. But the direction prescribed for the lingual is more longitudinal than transverse to take advantage of the wide ends of the spaces and sloping form of the teeth and gum, as well as the absence of contact points, to effect thorough cleansing of the spaces.

The motion of the brush itself should be always longitudinal and never lateral, except possibly at the disto-gingival line of the last molar. This motion is more quickly and easily executed, better governed, and better adapted to the form of the parts. It permits the bristles to follow the gingival lines rather than to cross them,



FIG. 4.

and it accomplishes an entrance of the bristles upon those areas of liability otherwise protected from friction by the contact points. I cannot, therefore, approve the so-called "up and down" brushing, accomplished as it must be by a lateral motion of the brush. It is slow and clumsy, and on the buccal aspects a failure, owing to the contact points, and an injury by crossing the gingival lines and tending to abrade and irritate the gums even at some distance from their margins. If human teeth were, in form, like the teeth of a comb, and gums like the back of a comb, that style of brushing would be adapted to them; but in their present form it is not.

The teeth should be brushed evening and morning. Those who can conveniently do so should brush after meals also. But a busy man who cannot find time or opportunity for this should

use a tooth-pick, and a glass of water to rinse after each meal. Any patient of discriminating turn of mind, and being instructed, may use a wooden tooth-pick to advantage. For the other kind a quill is safer.

Upon the areas of liability to caries about the contact points and in spaces not reached by a brush tooth-picks can do good service. Their use, moreover, aids in the discovery of cavities or other conditions needing attention. Pins, metal or round hardwood points are not to be used as tooth-picks.

Never recommend floss. Few persons can be trusted to use it without injury to the interproximal gum. It is not necessary anyway.

During the shedding of deciduous teeth children should be examined most frequently. Individuals differ in their need of this, so the dentist consulted should mark the indications and



FIG. 5.

advise accordingly. And, indeed, the same course is the proper one for adults also. However, the need for frequent examination usually becomes less as the patient approaches maturity, but it varies with susceptibility to or immunity from caries, and also with the patient's aptness to do his own part of cleaning and examination.

In connection with teaching, if no dealer nearby will keep or supply the brushes you prescribe, keep them yourself, and give a suitable brush to each patient receiving a lesson. Except in a charity case, a fee in keeping with the importance and value of these instructions should always be collected. People respect and remember, not what they get free in the way of instruction and advice, but what they pay for.

Do not try to teach the kind of people who already know it all. This class includes, among others, the second-rate drug-

gist, who knows all about tooth-brushes, dentifrices and medicines for the mouth.

To sum up—

Teach objectively and by demonstration, supplemented by statement and explanation in non-technical language.

Collect a fee for instruction and advice.

Provide proper brushes, or make sure they are obtainable by patients.

Prescribe cool water as a lotion.

Avoid and condemn nostrums, and discourage mouth-drugging.



FIG. 6.

Prescribe grits where clearly indicated only; their use to cease when their work is done.

Avoid large clumsy or ill-adapted brushes and coarse bristles.

Avoid so-called "up and down" brushing, and all stiffness of hold or violent use of the brush likely to irritate the gum.

Bear in mind the causes and local aggravations of caries, pyorrhea, inflamed or receding gum, denuded necks, the form, physical character and natural use of teeth and gum, in order to judge the merit of any hygienic or prophylactic measure proposed. The practice of oral hygiene is the removal of all traces of food or freshly precipitated calculi from the mouth. Whatever does this in a sure, easy and harmless way is good practice.

## SENSITIVE DENTINE,

BY GEORGE GOW.

Read before the Toronto Dental Society.

It would be well at the commencement of these remarks to state that it is not proposed to deal with the subject of "Sensitive Dentine," in all its varying phases, but merely to cite a few of the practical local remedies that may be employed with some certain degree of success, in the cases where they are respectively indicated.

This is a subject that engages the anticipation and subsequent meditation of our average patient in no uncertain manner, if we are to judge by the facial expressions presented to our view.

However arbitrary be their standard of criticism, the fact remains that patients, as a rule, weigh their opinion of an operator's skill, in proportion to the varying degree of pain they undergo in a given operation. I refer, of course, to operations on the dentine of a tooth incidental to the preparations of a cavity.

Who of us, for instance, has not often seen a nervous patient leaving the chair convinced that the operator is a man marvelously skilful and deeply sympathetic? Because of what? Simply because he was fortunate enough to be operating upon a tooth, the pulp of which had been removed in the past, a fact which had been forgotten by the patient, and, on the other hand, is there one of us who has not observed the case reversed? And after the careful and successful management of a difficult case from the operator's standpoint, which was attended with but the minimum amount of pain and discomfort possible to the patient, does the individual in question not often think the dentist deficient in the qualities mentioned in the other comparison?

Fair-minded people—those of intelligence and discrimination—are not so apt to be influenced in their estimate of a man's capabilities by the considerations suggested above, but generally speaking, an estimation based on this reasoning is prevalent.

It goes without saying, that the willing operator who has the best interests of his patient at heart, will at all times studiously endeavor to complete his work with the least pain possible, consistent with thoroughness, and thereby create a responsive feeling of trust on the part of the patient.

If a mercenary consideration be pardoned for the moment, it would appear, from the instances above mentioned, that the careless operator would best conserve his own reputation with his patients by studying the question of Sensitive Dentine as it appeals to them while in his hands for treatment.

Without discussing the psychology of the general treatment

of the subject we shall proceed to the question of remedies used to allay the pain of cutting localized areas of hyper-sensitive dentine, and we are at once struck with the fact that there appears as yet no agent that acts as a panacea.

Some remedies prove highly effective with certain classes of patients and in certain kinds of cavities, and again in others are utterly ineffective.

We may divide the remedies into two general classes, viz., those that produce complete anesthesia of the entire crown of the tooth, and secondly, those that obtund only a portion or layer of dentine to which they are applied.

Of the first class the chief drugs used are cocaine, which may be applied cataphorically, or by means of a force syringe, and the ether and chloroform combinations used as sprays, producing anesthesia by their refrigerating effect due to their rapid evaporation.

In the second class the number of drugs is almost endless, but those worthy of attention are few.

The use of cocaine does not commend itself favorably to every practitioner. It is used cataphorically and the application is successful, it yields results which are all that could be desired in the way of anesthesia, but it has the great disadvantage of consuming too much time, and moreover, it is often a tedious and painful procedure for the patient, inciting a nervous and restless condition which may be difficult to dispel.

The percentage of cases where this method fails is very large and the failures may be due to lack of effect of the drug, or the attendant amount of pain in applying may be sufficient to preclude its further use.

The force syringes have found ready acceptance at the hands of many practitioners, and are of unquestionable value, but their employment is attended with success in a by no means high percentage of cases. In normal cases, however—where ideal results are obtained—this method would seem to be an ideal one, as the time consumed in application is shorter, and the pain usually less than by cataphoresis.

Of the sprays "Ethyl Chloride" is the one most universally used, and the results as a rule are very gratifying to both patient and operator.

To one who uses it carefully its range of usefulness is very large, the results being more successful as its management is better understood. It is by no means painless in its application, and care must be exercised in its use, otherwise great harm may ensue. As it is to be employed only on the tooth in question, the operator must be at some trouble to confine the action to the desired locality, and keep it away from the lips or cheeks. The use of the rubber dam is, of course, a great assistance.

Its action is rendered appreciably less painful if a blast of cool



air is first directed against the tooth, thus making less the sudden change from a normal temperature to an extreme of cold.

A pledget of cotton saturated with the liquid should be gently brought into contact with the tooth or cavity, and then removed. This is repeated frequently until as the refrigeration extends, the cotton may be left on the tooth without excessive pain to the patient.

The tooth may now be sprayed direct until completely benumbed without causing much discomfort. The finer the spray, the better the action, and the less painful the application.

When the tooth is thus ready for operating upon, a piece of cotton, soaked with the liquid, should be held against the tooth while the cavity is being cut, as this maintains the state of anesthesia longer than if not used. The spray may be repeated at intervals until the necessary cutting is accomplished.

Some patients experience no pain at all, even in the early stages of its application, while inevitably, sooner or later, there will be found some who suffer to such an extent that it would be unwise to pursue the treatment to a finish. If properly used this method leaves no bad after-effects, but if an excessive amount of the liquid be used, as is common where the spray is not fine, severe soreness and pulpitis may ensue, lasting for some considerable time.

In the second class, the time-honored remedy of a solution of carbolic acid in alcohol, appears to head the list of useful agents. The cavity—especially a shallow one—may be moistened with the solution and dried out thoroughly by means of hot air. This is repeated two or three times or as often as it is found to be necessary. When the pain of cutting is not severe enough to warrant the adoption of any of the methods in class one—this, often proves efficacious, and will permit of a sharp bur doing the necessary cutting in a satisfactory manner.

In small, deep-seated cavities the manner of applying the solution may be varied. A pledget of cotton, soaked in the medicament, is placed in the cavity, and a ball burnisher of the same approximate size as the cavity is heated over the flame of a lamp or bunsen, and then pressed steadily on the cotton. The heat is maintained until the cotton is desiccated, when it will be found that the dentine will have lost its sensitiveness to such an extent that excavation of it is painless. This effect is due to the heat forcing the fumes of the drug into the tubuli, of the dentine, which effect often extends for a considerable distance pulpward.

Frequent applications by both methods may be necessary. In large cavities the latter method is not so feasible as the amount of heat necessary would cause more pain than the cutting itself. The greater the area to be treated, the more heat is required, and

consequently the greater the pain. Many of the essential oils may be used in the same manner as above described.

In sensitive superficial cavities—due to erosion or abrasion—full strength warm solutions of trichloroacetic acid applied two or three times, and the cavity dried between applications will often enable one to penetrate to sound, non-sensitive dentine, after which the cavity may be prepared as desired. This procedure possesses real merit, and is beneficial in many cases. In all these cases, sharp burs are essential to secure the minimum of suffering for the patient.

The subject might be discussed indefinitely, and it is hoped that the points considered in these remarks may provoke a healthy and useful criticism and discussion from the members of the Toronto Dental Society.

## Selections

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### THE SURGICAL DISCOUNT OF THE FUTURE.

BY ELY VAN DE WARKER.

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One of the most surprising things about the present surgical period is the recrudescence of old ideas which it was fair to suppose had lived their day. It assumes a new form and a new direction, but it is easy to recognize the old idea in a thin disguise. The only harm done is that it is a setback to progress. When a theory has lived its day and has not met the inexorable test of time, it ought to be executed and buried without benefit of clergy. That some think they see in this revamped method a new, or a restoration of an old, truth, matters but little, for these are not the men to whom we look for the logical clarity that establishes axiomatic principles, or the final settlement of methods.

This train of thought is suggested by the fact that at the spring meeting of the American Gynecological Society, held at Niagara Falls, a number of Fellows, in the course of a debate, claimed that they never opened the abdomen without removing the appendix, irrespective of the fact whether it was normal or not. One followed the other to claim that this was his routine practice. Strangely enough the size of the town was inversely to the number of his secondary appendectomies, if they may be so termed. As yet no dissenting voice had been raised, but the debate was brought to a ridiculous climax by a guest from a small Western town, carried away with enthusiasm, announcing the fact that he had made fifteen hundred celiotomies, in the course of which he had made thirteen hundred appendectomies. The experience of this young man so far exceeded that of any other operator that it appeared that nothing was left to its advocate to claim.

At the afternoon session several men denounced the method as bad surgery, both in theory and practice. It is doubtful if anything more is ever heard about it in the society.

This idea in the surgery of women is not a new one. Those who are old enough to have been through the stress of gynecic surgery as it was evolving from its chaotic condition into something like sanity, will recall the line of argument by which the gynecologist of twenty years ago made it appear like malpractice that if you removed one ovary you did not remove the other, lest it also become diseased and the woman made to un-

dergo the hazard of again opening the abdomen. The fear was the danger of opening the abdomen a second time, which transcended the value of a normal ovary.

Fixed delusions die hard. Respect for the sanctity of dry peritoneum was an inherited surgical limitation. It was a guiding instinct twenty years ago, strong enough to overcome the respect due to a normal and important organ. We all know what became of this absurdity. It marks, nevertheless, a shameful chapter in the surgery of women. In the light of this debate in the Gynecological Society, it appears that this idea is yet a factor that shapes the conclusions of some men. The surgical discount of the future, the need of doing something more than one set out to do, lest some imaginary danger may result from it, is the old idea shifted to new fields of surgical exploit.

It is possible that there is, in the case of the appendix, a mixed motive joined to the hereditary respect for the abdominal cavity. This is the very reasonable dread of the enormous fatality attending appendectomy when disease exists in this region of the intestinal tract. If then, the part can be removed when there is nothing the matter with it the surgical future of the individual may be made reasonably sure. It is impossible to predict of any healthy part when, if ever, it will become diseased. To remove it when healthy, simply because its future safety cannot be assured, is both bad and meddlesome surgery. It is not the surgeon's business; if it is, why does he limit his attention to the appendix? The gall-bladder is a frequent offender and ought to be removed for fear of concretions. Why not reinforce suspension of the right kidney by a few extra sutures to meet a possible ptosis of the organ. If the argument is valid it is a manifest neglect of duty to overlook any part which will jeopardize the surgical future of the woman.

Further, if the contention of our over-enterprising colleagues is correct, it is almost painful to reflect upon the advantages enjoyed by women over men from the greater frequency that her abdominal cavity is exploited by the surgeon and the opportunity thus afforded to remove organs which may, in the future, give possible offense. In view of the correctness of this attitude, how fearful and solemn are the responsibilities of those who incline to the opposite conservative contention. He can only point with warning finger to the past and the frequency that surgery of this character has required the rewriting of many chapters full of mischievous error.

Nothing said here must lead the reader to conclude that the removal of organs which are diseased, or which give a tangible threat of disease, is not a wise surgical proceeding. This is, however, a different matter from the removal of a normal organ which under the law of probabilities may never become diseased. The character of the men who took part in the discus-

sion calls for something more permanent than the few words thrown off in the haste of debate.

This leads up to another phase of modern surgery and one having special reference to gynecic surgery, namely, multiple operations. If there was any necessity for it, if it conserved any useful purpose which accrued from the women's condition, it could not be criticised, but as a matter of fact logical considerations have nothing to do with it. The sole motive behind the idea is to do all that may be done, or can be done, at one time. Any surgeon who carefully looks after his own patients will have no difficulty in observing the reaction in a patient who has had all the surgery that her nerve centres can sustain, and one who could have stood very much more. In one class of gynecological operations the multiple form is a decided disadvantage. This is in genito-plastic operations. This may be said to be the fine art of surgery. Men who are expert in ablation surgery—the hysterectomist, the oophorectomist, and others of that cult—generally are satisfied in plastic surgery with a success of a certain kind. The ideal plastic surgery is made step by step, each one leading up to the final completion. This implies that we take more time. But if it requires more time, to whom is the time saved credited? Surely not to the patient, for if the case were candidly stated to her that we could do better work by taking more time, I have never found her calling for haste at the expense of assured results.

A wise surgeon, one who has earned great renown in the surgery of the liver, has said, that the temptation was to do too much. His one guiding principle was to do what he set out to do in the simplest possible way and then stop. Avoid multiple operations in the surgery of the liver; it were better to operate later than do too much at the beginning. When we consider that all surgical operations are for the purpose of restoring health, or conserving life, haste ought never to be an element in the method, unless gravity in the condition of the patient calls for it. Multiple minor operations, combined with major, occur so rarely as a matter of necessity that it may be considered negligible. The only party to be benefited is the surgeon by the saving of a little time, but as his time belongs to the patient who has paid for it, the moral element is a contingent that he must settle with his own conscience when he retires to his closet for the self-communion which would do us all good if we practiced more.—*Editorial in the Monthly Cyclopaedia of Practical Medicine.*

## B. B. B.

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BY HORACE WARREN, D.D.S., MISSOURI VALLEY, IA.

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Read before the Twenty-Ninth Annual Meeting of the Nebraska State Dental Society, held at Lincoln, Neb., Tuesday, Wednesday and Thursday, May 16, 17 and 18, 1905.

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*Mr. President, Ladies and Gentlemen,*—When a Salvation Army corps goes marching along the street to a fife and drum, it doesn't imply the claim that there is any saving grace in the fanfare of trumpets, but only that the end justifies the means and they wish to enlist the interest of the people, then they can save their souls. We, too, as a profession, are in the saving business and this succinct alliterative caption is used simply to draw a crowd, for, while it is to me a highly important subject, it is one that has never elicited much attention from practitioners. Articles on prophylaxis of the oral cavity usually deal in generalities and ambiguities. The essayist has always endeavored to read everything published upon this subject, but has never seen anything that approached explicit directions in the premises. We are not treating ourselves, our patients or our profession honestly, when we neglect to inform our patients with reference to the personal care of their mouths, and the integrity of our operations is seriously affected by such neglect. I have inquired of many fellow practitioners if they are in the habit of impressing upon their patrons the necessity of personal care of the teeth. A few have answered me, "Yes," then, upon asking such what they tell their patients they usually answer, "Oh, I tell them to brush their teeth." Brush when, how, which? What do the laity know by intuition about the correct way? But, worse yet, and oh, the shame of it, the majority of dentists have told me that they usually don't say a word to patients on the subject, except to advise them to have their teeth examined once (or twice) in a while. Asked why such wanton neglect, and they, perchance, would answer, "It doesn't pay," or, it's "casting pearls before swine," etc. Well, it is before swine, we must admit, in many instances, but more's the pity and reason for the admonition. For many years I have made it a point to interrogate patients as to whether their former operators had ever told them how to groom the teeth. The answer nearly always is, "He didn't say a word."

It is the conscientious duty of every practitioner of dentistry to call the attention of all who come under their professional supervision, to the necessity of hygienic measures in the mouth,

and further, to go into details and instruct them in the correct manner of carrying out said measures properly. Properly, is used advisedly, for upon inquiring from patients, it is ascertained that there are many persons who are following some directions or using some material as a dentifrice which is absolutely injurious and which, upon advice from a reputable dentist, would be corrected. One instance: We are all frequently told by some one that he uses salt as a dentifrice, because, forsooth, in some newspaper article portraying the various uses of this condiment, he noticed that one was, its excellence to preserve the teeth. Yes, out of the mouth it will preserve them very well, but we all know too well that it is hardly a fit ingredient of a tooth powder. Another vagary is that hot water should be used with which to brush the teeth. Those of our patrons who have been more than ordinarily zealous in the care of the teeth are usually pleased to be placed on the right track, and are perfectly willing to have their errors corrected; and those biped-pachyderms who associate with human beings while maintaining veritable cesspools within the oral cavity and sit down in our chairs without even having a lawn mower run over their teeth to remove the mogs, do not deserve any consideration so far as their feelings are concerned, and probably wouldn't appreciate it were it accorded them; therefore, logically, it is clearly one's duty to advise those under our care in the correct manner of keeping the mouth approximately clean, for we all know too well that it can't be kept, like "Royal Baking Powder, absolutely pure."

The author wishes to modestly claim originality in placing prime importance to the idea which prompted the subject of this paper. B. B. B.—Brush Before Breakfast. So far, no writer in either text book or periodical has advocated the advantages of brushing before breakfast. The writer has made it a personal practice for the past thirty-seven years, never having missed it once for over twenty-five years, and wishes to go on record with the opinion that pyorrhea alveolaris would pass into history if this custom were universally followed, never having seen a trace of this dread malady where the teeth were regularly brushed before breakfast.

If the teeth were brushed but once a day it would be of far more benefit to them if done then, and further, brushing before breakfast will do more good than all the subsequent brushing of the day. The next most beneficial time is just before retiring. The teeth should of course be brushed "after meals" according to the stereotyped directions, but not immediately upon rising from the table. But first, as to cleansing of the mouth as well as the teeth, before breakfast. The tongue should be thoroughly brushed before breakfast and see that the patients are brushing well up on the necks of the teeth, getting friction up on the gums, and thereby keeping them healthy, for without such action they

will almost surely have pyorrhea sooner or later. With reference to the rotary plan of brushing the teeth, so frequently advised by the maker of brushes, and indeed by many writers, it is all "bosh," only making the task more onerous to those who already think it hard labor.

As we are all aware, the tartar is precipitated during sleep when the fluids of the mouth are in a quiescent state. Now, if one eats before removing that tartar (which feels to the tongue each morning like ground glass), it will be forced by the food passing over the teeth down under the free margin of the gum. Next day a little more, till, after awhile, you have a solid slab of tartar which can only be removed by the scaler.

After each meal, on arising from the table, immediately, if at all convenient, the mouth should be rinsed correctly, see that the patient understands how to do this (demonstrates). Then, the teeth should be picked with a fine wooden pick or quill, if the latter is properly trimmed, as they are not pointed correctly at the factory; then brushed, if convenient. The ideal home should have a lavatory off the dining-room into which guests might step for a moment and cleanse their mouths, for they are filthy receptacles until that is done; and a bottle of peroxide of hydrogen should be at hand to neutralize any odor of the food. By rinsing the mouth afterward strenuously with  $H_2O_2$  and borolyptol of each equal amount, one may make a meal of raw onions, limberger cheese and beer without fear of being detected of the crime.

The brush, too, is important and while I am not here to advertise any particular wares, the prophylactic brush, so-called, is the most effectual yet found, coming as it does in hard, soft and medium texture of bristles and adults', youths' and child's size, it seems to meet all the requirements. As to a dentifrice, something neutral, somewhat pungent, slightly alkaline, perhaps, in reaction like borolyptol, is certainly indicated. Assiduously avoiding, however, all soaps, those containing soap and also listerine, as the latter is decidedly acid in reaction, as the litmus paper will show, and should not be used about the teeth. The most satisfactory powder at this writing is the new combination gotten up by McKesson & Robbins only last year, which they have named "Colax." They claim that it contains oxygen, which is liberated upon coming into contact with the fluids of the mouth. Anyway, it is a very delightful powder, having no strong, disgusting odor. (And right here, with the risk of being irrelevant, the impropriety of one handling dentifrices and brushes should be emphasized. "Let the druggist do the work" and it will redound to dentistry two-fold.) A person should have at least two brushes, that a dry one may always be at hand. A brush, after being used, should be rinsed and then wiped as dry as possible, which keeps it much sweeter and makes it last



longer; and it should hang on a hook in a light place rather than be thrust into a mug back in a dark corner. The teeth should be brushed during sickness, if the patient's condition will possibly admit it, and should be done by the nurse when the patient is unable to do it himself. This custom is now being introduced into some of the progressive hospitals.

About advising patients to run silk between the teeth, it is very problematical whether it is right or not; if they would do it correctly without injuring the gums we must all admit the benefit thereof, but if they wound the membrane the good is neutralized by the injury. There may be nothing to all this business, but anyway I wish we may never again be called on to witness the incongruous, inconsistent spectacle of a professor of one of the largest dental colleges of the United States moving among us instructing us in the preservation of the teeth, and carrying about in his own mouth, teeth filthy enough to put a hobo to shame. This many here have seen. If this paper elicits no discussion the author shall feel very much chagrined, for in his humble opinion there is nothing done for the human teeth which benefits them so much as Brushing them Before Breakfast.

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### GOLD AND DENTAL QUACKERY.

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BY G. S. JUNKERMAN, A.M., M.D., D.D.S., CINCINNATI, OHIO.

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I have hesitated some time before breaking out in print upon a subject which seems to have been so well thrashed out already, lest I might be accused of being an agent which is conducive to the retrograde metamorphosis of constitutional dentistry; but my scruples have been overcome by a realization that I may have a new idea to present upon the subject, and with a feeling also that I am in a position to disprove the accusation should my fellow-practitioners feel justified in heaping upon me such an opprobrious epithet.

The element of permanency is excluded from all the professions to a much greater extent than it is in dentistry. It has seized upon the very vitals of the dental practitioner and, through his missionary work, upon the public to such an extent that it has been almost a universally stereotyped question, "How long will it last?" Apply it to any of the other professions and you will notice that it becomes a thought entirely foreign to them. With the medical practitioner, when the patient is about to terminate his last sickness, the lasting qualities are thought of; the lawyer has only applied to his client's purse;

while the preacher has a steady occupation regaling his flock with the importance of a continuous struggle for salvation. What the dentist builds, like the house of the grave-digger, must last forever, only the dentist builds his own tomb instead of that of another.

The use of metals for filling teeth brought into consideration between the dentist and his patient the element of durability, rather than the degree and kind of services rendered, cheapening the dentist into an estimate and finally a guarantee as to the length of time his operations (or more nearly his material) would last. It was found almost impossible also to avoid a discussion with the patient as to the kind of material to be used, and gold being mentioned, led to a comparison on the part of the patient, at least, of prices—not as to value as a filling material alone, but the intrinsic value of the metals themselves. The physician could not retain the confidence nor the patronage of his clientele, if he should be forced to discuss medical materials with them. The reason of this is that the public has not been trained along that line by the medical profession, though such has been the case by the dental profession. In the light of these facts it would not be an extravagant conclusion to assert that gold has done much, if not all, in producing quackery in dentistry, by suppressing those finer feelings of appreciation for services well rendered which distinguish the professional man from the vender of materials.

Dental patients have been trained to value how much they got rather than what they got. Extracting, cleaning, and treating teeth free, is the great slogan of the advertising quack; and I regret that I am compelled to believe that this practice is indulged in as a catch-penny device by many of my fellow practitioners who would resent the appellation of "unethical" if it were applied to them. Yet of the two I consider more honorable the man who advertises these services free than him who practices them in secret, not only cheating himself, but robbing his profession of honorable consideration, while he hides in the cloak of chaste ethics. It may seem undiplomatic, but I believe that I am stating a fact when I assert that most if not all the tricks and schemes utilized by dental quacks have been hatched in the dark under the ethical cloak and dragged into the light of public print by those driven by dire necessity or others who, at least, were honest enough to publish their mode of practice to the world. Gold or any other material cannot but be considered incongruous to ethics, because ethics is action and not material. Unwittingly at first and wilfully afterwards, the use of gold fillings has done everything in the construction of that massive bulwark which separates quackery and ethical dentistry by augmenting appreciation for material intrinsic value, and diminishing thought and respect for the qualities of dental surgery which know neither substance nor material.

America has been boasted of as the cradle of dentistry. I fear it has also been its grave, or what is still worse, that the cradle has been robbed and its previous occupant transported across the seas, while we have been nurturing a child of low birth. In Europe they have already separated professionalism and materialism, and it has done much to improve the ethics of dentistry. The use of inexpensive materials and the frequent refilling of teeth by our foreign brothers is a species of professionalism which might well be copied by ourselves. The "technic artist" and the "tooth doctor" are the distinctions made; the latter of whom comes within the pale of the professional class, while the former is the maker and vender of materials. Degrees of permanency and durability are questions that have faded in proportion as gold is not used, and thoughts of reconstruction and restoration have supplied those of substitution. Materials are forgotten and services sought for, and people are not anticipating that rainy day when their mouths may be emptied of gold to buy bread for their stomachs.

It is an unfortunate condition that so expensive a material as gold should make the most perfect and most durable filling, and even if this were the limit of the golden sway the damage to professionalism might be constrained; but regretfully we are compelled to acknowledge its universal power in the realm of prosthesis, and here the quack can use the sliding scale of material commercial value to murder the ethical practitioner and dishonor professionalism. The use of materials with little or no intrinsic value and of limited and doubtful durability would divert appreciation to services rendered, and cause the public to seek the services, and not the highest-priced materials for the least money, as is the case now.—*Dental Brief*.

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### THE PROPHYLAXIS OF SYPHILIS.

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The Pasteur Institute has recently published an account of certain prophylactic measures against the *Spirochete pallida*, which are said to be very efficacious in the case of animals. In a series of experiments Metchnikoff and Roux have shown that it is possible to cause abortion of the chancre following inoculation of syphilitic virus on the eyelid of a chimpanzee by carrying out mercurial inunction less than one hour after the infecting contacts. (A curious point is that a solution of sublimate has not the same protective action.) This is indeed practical prophylaxis, and it is to be wished that it may prove to be efficacious in man. What is still better, certain indications seem to warrant a hope that attempts at vaccination might possibly be successful in producing immunity against the disease.

## SOURCE OF FAILURE IN FILLING.

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BY C. N. JOHNSON, CHICAGO.

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In making proximal fillings a very prevalent source of failure is traceable to the imperfect form that is sometimes given these fillings. The normal form of the teeth on the proximal surfaces is such that with ordinary care food may be kept from lodging between the teeth and remaining there for any length of time. This is attained by a rounded form to this surface with a small and rather prominent contact point, which refuses to hold fibres of food when they are forced between the proximal surfaces in mastication. In the making of fillings they are frequently not sufficiently contoured to reproduce this small rounded contact, and the result is a more or less broad and flattened surface, which invites the lodgment and retention of food in the interproximal space. This retention of food is not only a source of great discomfort to the patient, but it also inevitably leads to recurrence of decay around the filling, besides forcing the gum from the interproximal space and creating a pocket between the teeth, which is frequently the forerunner of disease of the periodontal membrane. No matter how perfectly a cavity may be prepared, and the filling adapted and condensed, the operation must be considered a failure unless the proximal surface is so contoured that perfect protection is afforded the gum septum, and the retention of food is prevented.—*Dental Review*.

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## PREPARING DIFFICULT CAVITIES FOR INLAYS.

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BY JOS. HEAD.

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Sometimes we meet molars and bicuspid teeth that are so badly broken and decayed away under the gum that the preparation of the cavity and the consequent cutting down of undercuts necessitate much sacrifice of tooth-structure. These difficult cases can be made easy in the following manner: The cavity should be prepared as though it were for an amalgam filling. It should be sterilized and drilled. The True Dentalloy of White's made after Doctor Black's formula, should be mixed to the consistence of putty. Creamy cement should then be put into the cavity and all of it that is possible squeezed out by the amalgam. into the cavity so as to take out the excess of mercury from the

amalgam that is left in the hand, and the dried amalgam put into the cavity so as to take out the excess of mercury from the soft amalgam that was first inserted. This method is well known and needs no further remark. When the patient returns for the next sitting, the amalgam filling can be nicely polished, and then all of the filling that shows can be cut out and filled with porcelain. Many of these fillings are now in existence that have lasted four or five years. This method is most valuable in bicuspid where the mesial and distal cavities meet and divide the two cusps. To fill these two cavities with two porcelain fillings in the ordinary way is frequently not feasible, owing to the difficulty of getting retention laterally. A chance bite will sometimes loosen one from the other. To make these two fillings as one, under ordinary circumstances, means a great sacrifice of tooth-structure to obtain parallel walls; but if these two are first filled as one cavity with amalgam according to the method described, the cavity for the porcelain can be extended mesially and distally so as to cover all visible amalgam and yet present a cavity most favorable to the formation of the matrix.—*Dental Cosmos.*

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### INLAY SUGGESTIONS.

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BY W. T. REEVES, CHICAGO.

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It is not necessary that cavities be prepared with undercuts and other retentive forms to secure frictional resistance. Close adaptation will provide frictional resistance whatever may be the cavity form. We should have parallel walls when they will permit of proper manipulation to secure a matrix and an inlay that fits perfectly. A perfect fit properly cemented gives perfection of resistance to disturbing stress. A seating form of wedge shape is desirable as it gives positive direction when setting the inlay and secures closer adaptation. A symmetrical form is easily misplaced and allows of inaccurate adaptation. All margins should be bevelled inwardly, that is to say, they should present a well-defined or knife edge. This kind of a margin will give an obtuse angle to the inlay margin and prevent its fracturing under percussion, or bleaching out the color in firing. Porcelain inlays are friable when the margins are; then they are often made friable by faulty firing. If the porcelain is overbaked it becomes brittle. In molar and bicuspid inlays for proximo-occlusal cavities, get as much bulk as possible in the inlay and do not fire to a full glaze, just enough to prevent adhesion of food stuffs, etc. I do not believe in baking pins into

inlays, as they weaken the porcelain more than they give retentive security. A thin lap-joint will be more likely to slip than a square butt-joint. It may seem strange to hear it, but in my experience I find that inlays which are subject to stress stand better than labial, buccal, or occlusal inlays having surrounded tooth walls. I don't know why this is so, but I have more failures of labial and buccal inlays than all others. It may be that the cements do not get a chance to set so firmly as in other places.

—*Dental Register.*

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## DENTAL FISTULÆ.

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BY PROFESSOR PAUL RECLUS,  
Faculty of Medicine of Paris.

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The author describes a case which came under his observation at the beginning of his surgical career. A man suffering from a facial fistula of long standing had been subjected to a series of surgical explorations, curettings, incisions, but all without avail. Finally a canine tooth was removed and inside of three days that which had resisted the action of strong caustics, the surgical knife, etc., healed without leaving the slightest trace of its previous existence.

The picture of this typical case remains in the author's mind as vivid to-day as at the time of its occurrence. Consequently, when some time ago a woman patient presented herself at the hospital with a characteristic fistula of many years' standing upon the sternocleido-mastoid region the author at once referred the patient to a surgeon-dentist for the extraction of two diseased bicuspid on the same side of the face, and the patient recovered at once. This case is an interesting one in view of the fact that the disturbance had been diagnosed as a branchial abscess by several distinguished surgeons, who intended to treat it by performing a delicate and dangerous operation in the vicinity of the carotid sheath. Dental or odontopathic fistulæ in some cases follow a rather extensive path, opening at points far removed from the seat of the primary infection. Thus many are the cases on record of fistulæ opening under the eye, in the temporal, occipital and parotid regions, in the supra and infrahyoid regions, in the subclavicular spaces, and even in the upper thoracic region. The author recalls a case in which the fistulous opening of an alveolar abscess upon a root fragment was located under the clavicle near the sternum. A physician diagnosed the case either as an osteitis of the clavicle or sternum or a sterno-clavicular arthritis.

The author's description of the pathology and usual clinical history of these conditions is here omitted, being matters of common knowledge among dental practitioners. His word of warning affects the general practitioner rather than the dentist, although it may nevertheless be well to state that cutaneous fistulæ originating in a focus of infection about a tooth-root may be confounded with chronic cellulitis, malignant tumors and actinomycosis.—*Archives de Stomatologie, et Journal de l'Anesthésia.*

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### A CASE OF BLENNORRHAGIC STOMATITIS.

BY DR. JUERGENS.

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While the pathogenic agent of a certain type of inflammatory disturbances of the oral mucous membrane in children has been found to be the gonococcus, in adults it is indeed a rare occurrence to observe stomatitis in which the direct cause can be traced to the microbe of specific urethritis.

The case reported by the author was that of a man suffering from severe stomatitis involving the entire lining of the mouth. The morbid process was particularly intense in the vicinity of the gums which were covered with a layer of greenish fetid matter easily removable, although the slightest contact of the instrument brought about a sanguine exudation. Around the lower molars and in the region of the chin the superficial epithelium had undergone a destructive process, and in its stead several ulcers had formed. The pain was so severe that it was with difficulty only that the patient could open the mouth. At night the secretion of the inflamed tissues was so abundant that it interfered decidedly with the patient's rest and comfort. The treatment which at first proved unavailable had consisted in the use of solutions of potassium chlorate, aluminum acetate, potassium permanganate, etc. The phenomena did not abate until the use of mercuric chloride solution one-tenth to one-seventh of 1 per cent. As the patient had suffered shortly before the onset of the stomatitis from an attack of specific urethritis, it could have been supposed that the gonococcus had been a factor in its causation. A bacteriological examination, however, revealed the presence of a number of fusiform spirilli and bacilli (such as found in the case of Vincent's angina) and no gonococci. It was after repeated and careful examinations only that the specific diplococcus was finally discovered. Inoculations from the greenish gingival deposit in a Wertheim culture medium confirmed the diagnosis of blenorrhagic stomatitis.—*Berlin klinische Wochenschrift.*

## TUBERCULOUS ULCER OF THE GUMS.

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At the Laryngologische Gesellschaft, Berlin, Hr. G. Lennhoff recently showed a case.

The patient was a woman, aged 35, whose father had died of pulmonary phthisis. She had had exudative pleurisy eight years ago, and had lost thirty-five pounds in weight during the last five years. The lungs were practically sound, as shown by percussion and auscultation, but on the alveolar process of the upper jaw was a flattened ulcer, with a greyish-white base, pale secretion and excavated border. Small nodules were recognizable in the margin. There was also a flat ulcer, also with ondules, on the right upper gums. The disease had begun two years ago, with a slight feeling of soreness and bleeding on the slightest touch. There was no question of syphilis. The absence of any tendency to cicatrization was against any theory of lupus. No microscopic examination had been made yet.

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## A CASE OF SYPHILIS FOLLOWING THE BITE OF A HUMAN BEING.

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Dr. James Garvie McNaughton, M.D., Edin., M.R.C.P., Edin., of Manchester, in the *Lancet*, of January 6, writes: "A woman, aged 55, who was sent by her medical attendant to the Throat Hospital, Manchester, for further treatment, gave the following history of her symptoms: On August 11, 1905, she was bitten on the back of the hand by a woman and a sore which required about six weeks to heal subsequently formed at the place. About five weeks after the bite spots began to appear on her body, and a little later her hair began to come out.

When the patient was seen by me on December 21, the sore on the hand was quite healed, leaving a dark red scar of the size of a florin. The rash had quite disappeared, but the woman was still suffering from condylomata. Her mouth showed several mucous patches, especially on the inner surface of the lips. In the larynx there was considerable infiltration of the inter-arytenoid region, with ulceration of one vocal cord. The patient is a widow; but there seemed to be no reason for believing that the disease had been contracted in any other way, and her medical attendant has informed me that a primary sore developed at the seat of the bite. The comparative rarity of the communication of syphilis in this way seems to make the case worthy of record.



### COMPREHENSIVE.

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The following is the copy of a sign exhibited over the door of a general store in a little out-of-the-way Cornish village, and reads: "R. G. —, Surgin. Parish Clark, Groser and Undertaker, respectably informs ladys and gentlemen that he drors teeth without wateing a minut, apply leches every hour, blisters on the lowest terms, and visicks for a penny apiece. As times is crul bad I begs to say that I have begunned to sell all sorts of stasionary ware, cox, hens, fowls, pigs, and all other kind of powltry. I have also laid in a large assortment of trype, lollipops, ginger beer and matches, and other pikkels, such hepsom salts and winzer sope."

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### A CASE OF NECROSIS OF THE JAW IN A BRASS-FOUNDER.

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Amongst the surgical cases in the out-patient room of King's College Hospital, recently under the care of Mr. Peyton Beale, was that of a man, aged about 25, who was employed in a brass foundry, who had developed necrosis of the mandible. The patient had noticed about five months previously that his incisor teeth of the lower jaw were becoming loose and painful; his gums were also tender and spongy, then the gums surrounding these teeth began to ulcerate and he had the whole of the lower incisors removed. The ulceration of the gums extended, and when he applied for treatment the whole of the front of the lower jaw was bare nearly down to the meatal process, but the bone was not in any way loose. Mr. Beale believed that the condition was caused by the fumes of zinc being inhaled, while the molten brass was being run into the moulds for the purpose of castings. This would account for the gingivitis and the loosening of the teeth; the probability was that septic organisms thus gained access to the sockets of the loosened teeth and to the periosteum of the lower jaw; the septic process then spread downwards in front of and through the bone, causing it and the tissues in front of it to necrose. In treating such a case one might at once remove the necrosed bone, but he considered this procedure to be very undesirable, because (1) it was impossible to say how far the necrosis had really extended, particularly as regards the thickness of the bone; (2) the parts were necessarily high spetic, and in dividing the bone there was a certainty of infecting tissues which were hitherto free from infection. He considered the best line of treatment to consist in cleansing the

mouth as far as possible by the use of a tooth-brush and a 1 in 20 solution of lysoform, which he had found to be the most desirable antiseptic for use in the mouth. The necrosed bone would then gradually separate and in the course of a few weeks would be found quite loose and capable of being picked out bodily. The resulting deformity was very much less than it would be if the bone were removed before a natural line of demarcation had been formed. He had come across three or four similar cases and they were very like the necrosis produced by phosphorus poisoning. As regards the gingivitis the internal administration of iron and arsenic seemed to be beneficial, but it was a noticeable fact that it was very difficult to stop the inflammation owing to the difficulty of procuring asepsis of the mouth. He believed the actual necrosis was entirely a septic process, the primary ulceration of the soft parts only being caused by the fumes from the molten metal. It was of course necessary that the man should not continue with the same work.

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#### A DEATH FROM NITROUS OXIDE.

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Fatal results from this anesthetic are so unusual that it is of interest to note a recent instance reported from New York. The patient was anesthetised by a dentist for the purpose of having an alveolar abscess opened, but after the termination of the operation he could not be roused and died in half an hour. No contra-indication to anesthesia had been discovered by the man's family physician who had given his consent to the use of the gas.

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#### DENTAL SURGEONS FOR THE U. S. NAVY.

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A Bill has been introduced in Congress to establish a service of dental surgery as an adjunct to the regular departments of medicine and surgery of the Navy. It is proposed to have three grades, "assistant dental surgeon," "passed assistant dental surgeon," and "dental surgeon," the incumbents of which would be on the same footing in regard to rank, pay, and privileges as officers in the corresponding grades of the medical service.

## **Proceedings of Dental Societies**

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### **WESTERN ONTARIO DENTAL SOCIETY.**

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#### *To the Executive of the Western Ontario Dental Society:*

A meeting of the above committee will be held on March 13th, in the R. C. D. S., Toronto. As business of great importance will be transacted it is desirable that all the committee be present.

S. A. BENTLEY, London, *President*.

FRANK E. BENNETT, St. Thomas, *Sec'y-Treas.*

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### **KENTUCKY STATE DENTAL ASSOCIATION.**

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The next annual meeting of the Kentucky State Dental Association will convene at Dawson Springs, Ky., June 4th, 5th and 6th, 1906. We anticipate a most pleasant as well as a profitable meeting, and a cordial invitation is extended to the profession.

W. M. RANDALL, *Secretary*.

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### **ALUMNI ASSOCIATION OF BALTIMORE COLLEGE OF DENTAL SURGERY.**

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The Alumni Association of the Baltimore College of Dental Surgery will hold its re-union at the College Building, Baltimore, Md., May 10th and 11th, 1906.

The committee has endeavored to reach by letter every graduate it has been able to locate. Those who have not received preliminary notice of this re-union are requested to send their address to the secretary, so that they may receive an official programme.

An interesting programme is being arranged, consisting of Clinics and papers by men of exceptional ability, also re-union of classes, and Alumni dinner. All ethical members of the profession cordially invited to attend.

W. W. DUNBRACCO, *Secretary*,

327 N. Charles St., Baltimore, Md.

# Dominion Dental Journal

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No. 2.

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## PEDDLING OF NOSTRUMS.

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All advances in dental practice seem to go through certain stages of development before they find their proper place and before all the profession know their value. Cocaine was used for years as a local anesthetic in dentistry before the fakirs found it out. Immediately they started out to sell to dentists office rights to use a drug which had been in use for a long time and had been demonstrated before societies and had appeared in the literature frequently. True, it was sold under several names, but a man who is worthy to be a member of a profession should be wise enough not to be duped at his own business. There might be some excuse for a dentist buying stock in cement mills or mines which are useless, but none for buying office rights. He at once acknowledges he does not know his own business and that he can be taught it by a peddler.

One example of the ignorance and gullability of the dental profession by such fakirs will serve to illustrate what is going on

continually. The painless extirpation of the dental pulp by the use of cocaine was practised and published by Dr. Burge in 1894. Few followed his methods for some years. About four years later office rights were sold to practise painless pulp extirpation by the use of cocaine. Such office rights were sold even as late as 1903 right in Ontario though the method had been published scores of times. In Toronto hundreds of dollars were paid for office rights to use the method two years after it had become common knowledge among those who read dental journals.

Peck, McWhinney, Cook, Buckley, and others placed the treatment of infected root canals and associated parts upon a sounder basis, and four or five years later appears "Oxa para abconcor, pulp spot," etc. Nothing more or less than drugs recommended by these men and used by the readers of the dental literature. The men who never read support the fakirs. These peddlers of nostrums reason that if the dentist will buy that which he knows nothing about though it may have merit, he will also buy that which has no merit. So it is we have formulæ salesmen in Toronto during the past few months. The salesman says thirty dentists have paid out five dollars each to get such prescriptions as, "Give one Park-Davis pill, No. 122 and No. 23, to nervous patient before operating." Fórmula No. I.—Inhale amyl. nitrite and aquæ ammonia for sensitive dentine. Rather a dangerous drug in the strength of amyl. nitrite  $\text{℥ i.}$ , aquæ ammonia  $\text{℥ ii.}$ , water  $\text{℥ vi.}$  Amyl. nitrite is a very poisonous drug and should not be used unless to combat the last stages of collapse. If a patient should die under such treatment it would be a poor excuse to offer to the jury that the man who sold it to you said it was harmless. Recently an accident occurred in Ontario in connection with a much advertised anesthetic, which might have been averted but for enthusiastic salesmen. There are three or four more formulæ belonging to one outfit which are as well known as they are useless. If any dentist should want any of them we will gladly send them to him, but we would not waste the space of the journal to publish them. The late Dr. Barrett said on one occasion when referring to nostrums: "You may depend upon it that nature does not reveal herself to the ignorant."

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WILL somebody in the Alberta or Saskatchewan Provinces explain how reciprocity between Michigan and the Canadian North-West was brought about, and on what basis such an agreement was reached? The State Board of Michigan says such a reciprocity exists.

## ANOTHER PRACTITIONER'S COURSE.

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The Board of Directors of the Royal College of Dental Surgeons never did anything which brought forth more favorable comment than the conducting of a practitioner's course in 1898. It was the greatest factor in improving the character and attendance of the Ontario Dental Society. It brought together a number of the progressive men of the profession and made them lasting friends. Ever since then these men meet each other as old friends, in fact as college chums. They would attend the Ontario meeting if for no other reason than to renew old acquaintances. They interchange ideas, improve methods and conditions of practice. Both the profession and the public are gainers by such interchange.

If such lasting results can be had from such a course it is fair to suppose that each of many such courses would be equally valuable. It is now eight years since the last course was conducted and in that time many improvements have been made in dental practice which cannot be learned in a day now and again at a convention. To give a course lasting two to four weeks on the most up-to-date methods of practice would be of lasting benefit to the profession, and redound to the credit of a progressive Board. The most suitable time for such a course would be immediately after the close of college in the spring. At this time an abundance of clinical material can be had from the college clinic. Seeding and house-cleaning seasons are on and practice is not pressing. The college is equipped and standing idle. Everything is ready if the Board will say the word. Such a course would be of great benefit to those candidates preparing for the Dominion Dental Council examination.

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## A MINISTER OF PUBLIC HEALTH.

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At the twenty-fourth annual meeting of the Provincial Board of Health the following resolution was unanimously passed:

"That in the opinion of this board the time has arrived in the interest of sanitation for establishing a Department of Public Health, with an executive head, to be known as the Minister of Public Health."

The functions of the proposed Minister would be three-fold: Initiatory, in introducing legislation and sanitary regulations throughout the province; remedial, as in the correction of arm.

ances, local boards frequently failing in their duty in this respect; and supervisory by inspection, taking care that the local authorities carried out the work allotted to them.

A large part of the work of the board is now in the Provincial Secretary's department, and another part in the Department of Agriculture. Dr. Douglas thought it difficult to see where the connection lay. They should have a specialist in health matters, a graduate in medicine at the head of sanitation, as there was a lawyer or graduate in agriculture at the head of those departments.

The new minister would have under him a full staff consisting of deputy minister, sanitary engineer, sanitary inspector, bacteriologist and chemist. He would transfer to the new department the inspection of factories; vital statistics and their collection; hospitals and asylums, their support and inspection; the medical inspection of schools, in which connection he mentioned the fact that female school teachers have the highest death rate, next to printers and pressmen; inspection of cheese factories and dairies, and inspection of immigrants. Hygienic education and the control of houses of refuge were also matters for the attention of a Minister of Health.

"The medical inspection of schools." The mere inspection of schools is not enough, there must be some provision made for correcting wrongs in sanitation, and treatment of defects in the children. Although the public and private school children of Great Britain, Germany, Sweden, Japan and many other countries have had regular medical inspection for years, the Ontario Department of Education has not gotten along far enough to take any interest in the subject. The department has shown an inability to grapple with technical education and agricultural education, so these departments of public instruction have had to be carried on under other departments. So it is with education in hygiene. The Department of Public Health should take up the subject, and instruct the rising generation how to live so as to avoid disease and pain, and live a long and useful life. It has not yet occurred to our educators that it is quite as important to the country to raise a strong, healthy people as it is to raise a vigorous horse. No one would expect to succeed in the raising of cattle unless he knew something of how they should be housed and fed, and yet anyone may undertake the raising of the people of our country whether they know anything about how to house, clothe or feed them. Indeed, it is high time that a full department of public health is begun, so that our young people may be taught how and what to eat, what to wear and in what kind of houses to live.

The prevention of disease is much more important than the treatment of it. In as much as the general practitioner of medicine has had little or no training in the prevention of disease

he is not necessarily a good public health officer. The prevention of disease requires an entirely different training from the cure of it. Any graduate in domestic science knows more about how to maintain the human body in health than a graduate in medicine, provided he knows no more than he was taught in medical college. The physician or surgeon gets absolutely no instruction on how to maintain a healthy oral or nasal cavity. There are many other departments of public health of which the physician knows no more than the average intelligent citizen. Thus it would seem that the department should have advisory help from many sources, because no one man, under our present methods of education has a sufficient grasp of the subject to administer it as it should be without help.

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### ONTARIO AGRICULTURAL COLLEGE AND EXPERIMENTAL FARM.

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The College was established in 1874. Its objects were two-fold: First, to train young men in the science and art of improved husbandry; and second, to conduct experiments and publish the results. In 1875, the President said in his first report: "It is evident to the most cursory observer that Canada depends, and will be obliged for many years to depend, largely, if not exclusively, on her raw produce for her national wealth. And amongst the various forms of raw material, none are so valuable as those included under the head of Agricultural Produce. To the observant statesmen, it is plain that the readiest manner of increasing the national wealth is by increasing the quantity and quality of that produce. But though plainly seen, it is not so easily accomplished. Precedent, prejudice, and general conservatism stand in the way. Throughout the Province there is a powerful minority of intelligent, enterprising, and successful farmers pursuing the improved system of cultivation; yet the great majority are depending solely in increased acreage for increased returns."

That was thirty years ago, and the College, facing these conditions, with the opposition of the very class which it was intended to help, has grown steadily in favor with the people, until now farmers themselves visit the College in June and December to the number of nearly 40,000; and we had last year in attendance at the various College classes 1,004 students. More than 1,200 teachers visited the College and examined the workings of the different departments during the past two years.

In the beginning students were paid to attend the institution, and there was practically no revenue from the College or farm.



In 1905, we turned into the provincial treasury as revenue from the College and farm \$61,568.20. The work of the different departments is as follows:

(1) *Field Agriculture*.—Teaching of students and experimenting with field crops is the work of this department. In Mr. Zavitz' report of last year the following paragraph appears under the head of "Barley": "The results show that the Mandscheuri gave decidedly the greatest yield per acre of the four varieties for the whole period of fifteen years, and also for the last five years. The Mandscheuri gave an average of 9.3 bushels per acre per annum over the common six-rowed barley in the average results for fifteen years. The average area devoted to barley in Ontario from 1882 to 1904 is given as 633,290 acres per annum. An increase of nine bushels of barley per acre throughout the province would, therefore, amount to an increase of over five million bushels of barley in Ontario annually. This increase at fifty cents per bushel would amount to about two and a half million dollars. Two and a half million dollars annually would pay the running expenses of about thirty Agricultural Colleges like the one located at Guelph. The Mandscheuri barley was imported from Russia by the Ontario Agricultural College in the spring of 1889. Not only has it made a very excellent record at the College, but it has given high results in the co-operative experiments throughout Ontario, and has been grown in general cultivation very successfully during the past few years. In looking up the records of the Bureau of Industries, we find that the average yield of barley throughout the province for the period of ten years from 1895 to 1904, inclusive, is 29.3 bushels per acre; while that for the period of ten years from 1885 to 1894, inclusive, was 24.85 bushels per acre. This shows an annual average increase of about 4 1-2 bushels per acre, for the latter as compared with the former period of ten years. From these results does it not appear as though the introduction of the Mandscheuri barley by the Ontario Agricultural College has been worth to the Province of Ontario within the past ten years an annual money value equal to more than fifteen times the entire cost of the College?" Similar work is being done with wheat, oats, peas, rye and grasses, and clover and roots.

(2) *Animal Husbandry*.—Here students are taught the comparative values of the different breeds of domestic animals, and as it is said that 80 per cent. of all the crops grown on the farms of Ontario is fed to live stock, it will be seen at a glance how important it is to be able to tell a good feeder when one sees it.

(3) *Dairying*.—The making of better butter and better cheese, and the breeding and feeding of better dairy animals. The average cow in Ontario gives less than 3,000 pounds of milk

per year. The College, by careful selection and proper feeding, has built up a grade herd which, in 1904, contained sixteen cows which gave more than 6,000 pounds each.

(4) *Horticulture*.—Here we are somewhat handicapped by severe climatic conditions. Being 900 feet above Lake Ontario, we cannot grow the more delicate fruits. Students are given instruction in the growing of all kinds of fruit, vegetables, and flowers, and experiments are conducted with the small fruits and with cover crops for the orchard.

(5) *Bacteriology*.—Nitrogen is one of the principal needs of a plant. It is worth, commercially, about 20 cents a pound. The air is 80 per cent nitrogen, and yet plants cannot use it in the form in which it appears in the atmosphere. Certain bacteria, if introduced into the soil, will work on the roots of clover and other leguminous plants, take the nitrogen from the atmosphere, and convert it into plant food. Our bacteriologist propagates in his laboratory and supplies in small bottles millions of these nitrogen forming bacteria, which may be spread upon the seed before it is sown, and thus introduce into the soil these nitrate-forming bacteria. A crop of clover will leave in the soil in the roots alone about fifty pounds of nitrogen per acre. Thus the plant food supplied to the soil by a crop of clover is \$10 per acre in one year, and the farmer has the clover crop, tops, and leaves to the good. This, if practised on every farm, would mean millions each year to this province.

(6) *Chemistry*.—It was said a few years ago that sugar beets could not be grown profitably in this province. Our Department of Chemistry conducted experiments in the different parts of Ontario, and analyzed the beets at different stages of growth. It is now known that we can grow as good beets as in any part of the world, and men are putting their money into the building of sugar beet factories. Over 22,000,000 pounds of beet root sugar were made in Western Ontario last year. Chemistry did it.

Our Chemistry Department last year analyzed flour made from four different grades of wheat grown in the Northwest. There was a difference of many cents per bushel in the market value of these wheats, and yet, after analyzing the flour, and having bread made from each of the different lots, it was found that the fourth grade made bread just as good, just as palatable; just as much bread per bushel of flour, and just as nutritious as the higher grade, but it was not so bright in color. The result of this analysis will enable poor people, or people in moderate circumstances, to get the best bread for their families at very much less than they have been paying.

(7) *Physics*.—In this department are taught the principles of soil cultivation and soil drainage. All farm crops take their food from the soil in a watery solution. When the land dries up

no more food can be taken; hence the necessity for a knowledge of how to conserve soil moisture. This is one of the most important questions that a farmer has to deal with, and experiments are being conducted in the Department of Physics all the time along these lines.

(8) *Botany*.—In this department the subject of weeds and how to destroy them, the question of fungus growth, and when and how to spray to exterminate them, the importance of growing grasses and clovers; and such things are taken up and discussed.

(9) *Entomology*.—Again, millions of dollars are lost every year by insect depredation. Only by studying the life history and habits of an insect can it be properly combatted. These are taught to the farmers' boys, and bulletins are published and sent broadcast to the farmers from our Entomological Department.

(10) *Poultry*.—Chickens used to sell anywhere on the market from 20 to 30 cents apiece. To-day they bring three times that amount, where they have been properly fed, killed, and dressed. We have no trouble in disposing of our poultry here at from 12 to 15 cents a pound dressed, and our students are taught how to breed and feed so as to obtain these results. We have four different styles of poultry houses to test the effects of heat and cold on the egg-laying proclivities; hence we find that the oldest, and, therefore, the cheapest house, is the best, and that fresh air, not warm air, is essential to good egg production.

(11) *Macdonald Institute*.—Three things are taught: Domestic Science, Manual Training, and Nature Study. In domestic science there were 300 girls in attendance last year, each one being obliged to learn cooking, sewing and laundry work. In a province where over 90 per cent. of the women do their own housework, what a blessing it would be if they were all properly trained for their daily duties. Manual training makes boys and girls handy in the use of simple tools, and nature study, which is really elementary agriculture, helps teachers to the extent that they may return and give to their pupils an education that will more nearly fit them for the earning of their daily bread.

The College is then doing three things: First, fitting boys and girls for their life work on the farm; second, by experimenting along different lines it is saving the farmers millions of dollars each year by securing for them exact data in reference to the value of different farm crops, farm animals, and so forth; and third, by the writing and publication of bulletins and reports, the farmer is supplied in his own home with reliable information in reference to his business.

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J. A. CARVETH & Co., Toronto, are now the sole agents in Canada of Bailliere, Tindall & Cox, publishers, London, Eng.

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**Obituary**

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**CHARLES C. CHITTENDEN, D.D.S.**

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In respect to the memory of Dr. Charles C. Chittenden, the Odontological Society of Madison, adopted the following resolutions on December 16th:

*Whereas*, The hand of Providence has removed from us our honored member and President, Dr. Charles C. Chittenden; and

*Whereas*, In his decease we have lost one of the founders of our Association, who, as president and as an active member until his death, evinced a warm interest in its welfare. As President of the National Dental Association, President of the National Association of Dental Examiners, and also President of the State Board of Dental Examiners for many years, he gave freely of his time and energy, sacrificing his health for the advancement and betterment of dental education; and who, in many years of practice, set before us a worthy example of fidelity to his patients, and kindly interest in his younger professional brethren; therefore, be it

*Resolved*, That we desire to express to his bereaved family our sympathy and sorrow in their affliction, and our admiration for the professional and personal qualities of our member; and

*Resolved*, That these resolutions be spread upon the records of our Association, a copy sent the family of our departed brother and others to the Dental journals for publication.

W. H. MUELLER,  
O. C. SCHMEDEMAN,  
F. S. MCCONNELL,  
*Committee.*

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**Publishers' Department**

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**SANITOL IN MUSIC.**

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Now "Sanitol" is to be "Best for the Ear" as well as "Best for the Teeth," for the composer of "Hiawatha," "Silver Heels," "Marjery" "Poppies" and other popular marches and two-steps, has named his latest and best two-step and march "Sanitol." This music is dedicated to the President of the Sanitol Chemical Laboratory Co., Mr. Herman C. G. Luyties, and already one of the great Concert Bands of the country has brought to this new composition an enthusiastic reception. We have just received a copy of this march from the Sanitol Company, and we understand that copies have been sent to the Dentists all over the country with the compliments of the President. The music is delightful, is full of life and has been received with great favor in musical circles. Every dentist should have one in his home, and additional copies, we understand, can be secured from all music stores.

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A Dental practice in a beautiful Western Ontario town for sale. One of the best practices in Ontario. Cash receipts between two and three hundred dollars per month. Satisfactory reasons for selling.

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Ritter Dental Engine, 110 volts, direct current, suspended type, first-class condition, \$70.00 ; also, Denison, same current, \$30.00. Nicholl & Grieve, 152 Bay Street, Toronto.

# Dominion Dental Journal

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## Original Communications

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### PRESIDENT'S ADDRESS.

BY J. R. MITCHELL.

Delivered at the Ontario Dental Society, March 12th, 13th, 14th, 1906.

I wish to thank the members of the Ontario Dental Society who were present last year for the honor conferred upon me by electing me president of this society, especially as they did not forget me in my absence. I can assure you that I deem it a great honor to preside over a meeting of this kind composed as it is of men of high intellectual standing who are the backbone of our profession. Never before in my experience in a position of this kind have I been so impressed with the fact that my ability is inadequate to the task set before me.

My greatest ambition at this time is to say something that will result in elevating the standard of our chosen, and, I trust, cherished profession; but when I look back and view the noble efforts of still nobler men in this direction I am amazed at the meagre results along many lines when compared with the effort put forth.

But, gentlemen, we must not be too pessimistic; let us rather be hopeful, and look about for some of the causes that are fettering the progress of our profession, and having discovered them, let us put our shoulder to the wheel and assist in removing those hindrances.

Why have the efforts of some of the noble members of our profession been so scantily rewarded with good results? The one great cause has been that the few self-sacrificing ones have been left alone to bear the brunt of the battle while the great mass has been hanging around the commissariat department like so many camp followers feasting upon the provisions supplied by the leaders.

Sir, our profession will never attain that dignity which it should possess, until each individual member realizes the value of his individual influence and endeavors to his utmost to exert that influence in the right direction.

Why is it that so many of us fail to exert a healthful influence in our own community. The one great cause is too many are afraid that the other fellow will get a quarter's worth of work that we might have had, and the consequence is that we hustle to our office at 8 a.m. and remain there, with the exception of a hurried dinner hour, until 6 p.m., return at 7 or 7.30 p.m., and remain until 10 p.m., plugging in fillings all day and scraping plates (I say plates) all night; no time left for intellectual or physical improvement until we become so narrow that we could sit on the edge of a razor and have room to spare. And the consequence is that we dwindle to such a state that we are not fit company for man nor beast, and still we complain that the dental profession does not receive that same recognition in society that the other professions do. Gentlemen, the trouble is not with society. Our profession will have exactly that magnitude which the individual units of which it is composed, taken as a whole, give to it. The public are very expert valuers, and they will never value a man any higher than he values himself.

But some one says I cannot get through my work in less time, I cannot spare the time for developing side lines and cultivation of other attainments. I say, yes you can. If you properly value your services, and those services are up to what they should be, no man need work day and night to the exclusion of all else. In fact I am firmly convinced that if we systematise our work and apply ourselves faithfully from 9 until 5 or 6, and keep away from the office unless in case of necessity, and spend our evenings in reading proper literature, in experimenting if we wish, or many other ways which will prove a source of benefit, that at the end of the year we will find ourselves improved mentally, physically and financially, with a better disposition toward our patients or families, and a credit to our profession.

Another fruitful source of trouble is the fact that we have laid too much stress upon the material and mechanical side of our work. In this way we have given the public the idea that all we are good for is to patch up a cavity with so much amalgam or so much gold, or construct a plate (I say plate) for which piece of MATERIAL and work, with the accent on the material, we receive a set price the same as the shoemaker receives so much for putting a patch on a boot or for constructing a new pair, or the same as a blacksmith gets a set price for putting a shoe on a horse. In fact, if the smithy should have a fractious animal to handle, he will demand and receive extra recompense, but how many of us spend our time trying to accomplish something for a nervous, fractious patient and for fear of being called high-priced we lose our extra time and spend our energy and spend our *patience* for nothing.

We have allowed the public to forget that we have restored a useless and troublesome member to usefulness and comfort. We have allowed them to forget that through our knowledge of science and the application of that knowledge that we are able to replace lost organs and to build a bulwark to withstand the ravages of disease.

We have allowed them to forget that through study and

development of mechanical skill we are in a position to restore the harmony and beauty of the features and preserve the usefulness of some of the most useful organs of the human system. We allow them to forget that the trust that is imposed upon us as dentists, is care of the vestibule of health. Surely, gentlemen, ours is a noble profession, and surely its standard is at least worthy of being upheld.

The dental profession is passing through the most critical period since its inception as a profession. We are coming more and more under the scrutiny of the public, and it behooves every member to contribute his share toward clearing up and removing the barnacles that have become incrustated on her hull, in order that she may sail out with flying colors into the great ocean that lies before us. If we do this work as individuals, and conscientiously keep the space allotted to each one of us clear off the many barnacles of unprofessionalism, with our sails trimmed taut we may rest assured that the certain breeze of public commendation and of inward congratulation will waft our bark to that port of destiny that should be the goal of every true professional man.

Our profession has made rapid strides during the last decade. As a graduate of '94, when I take a retrospective view of the advanced conditions under which the then faculty imparted their instruction and we as a class received it, I am amazed at the advance made since that time, and sometimes wonder how we who graduated then are able to hold our own with the more recent productions of bettered conditions. But, gentlemen, it is a source of congratulation to me that I find that a class-mate, Dr. Coghlan, occupies the chair as vice-president of this society. Dr. Webster, another class-mate, most efficiently fills a position on our faculty. Dr. Price, of this city, is one of our best electricians. Dr. J. Ross is the instructor in porcelain, and I could go on much further and enumerate many others who graduated under the adverse conditions at that time who are prominent in our profession and have contributed their share to the advancement of the profession generally. The standing of these men to-day is not due to any superior ability on their part but to a desire to become better men, and in this they are stimulated by the good example of our faculty and the sound ethical principles which they endeavored to inculcate. Sir, this thought brings us face to face with the increased responsibility of our faculty of to-day.

We have an institution of which we may well feel proud. Commercially the output and income is much larger, but is the quality of goods produced up to the standard demanded, represented by the increased facilities. Is the average graduate produced to-day going to be any more creditable to the profession than those of former years, or is our college with its increased appliances for developing mechanical and operative skill and its increased facilities for imparting a knowledge of the arts and sciences producing a more ethical dentist than in former years. Gentlemen, I ask this question to set you thinking. If with the greater number of graduates our ethical standard is not raised, then the trend of our profession is retrograde. There is no subject



taught the students in our college to-day of paramount importance with their ethical training. I am pleased to know that our Board has taken a step in that direction when they decided that no student should be allowed to article with any dentist who has not always conducted his profession along ethical lines. This is a most important step, as I believe the great majority of students cannot pass under the influence of such a preceptor without being contaminated. I would further suggest that an ethical report be drafted and placed in the hands of the various members of the faculty who have an opportunity of observing the dispositions of the various students, and in the case of a student showing a predisposition toward dishonesty or unprofessional conduct and such may be proven, then a certain percentage should be deducted from all his papers, and in case of his disposition being bad enough I would not allow him to go up for examination at all. The objection to this might be that it puts too much power in the hands of the faculty. I think not. Any member of the faculty should be large enough and fair-minded enough to give all students due credit. Gentlemen, there is no reason why the R.C.D.S. should not turn out the best equipped class of graduates, both ethically and otherwise, of any similar institution on the continent. On the other hand, there are many reasons why they should. I believe our young Canadians, as a class, are superior morally and physically to any similar class on the continent, and with strong guiding hand to help in the start there is no reason why they should not make the best men.

A word to the young men. Upon you more than any other class in the profession depends the future status of our profession. Let each one of you realize that upon your individual influence depends your own success and elevation or degradation of your profession. Young men, start right, keep right and you will end right.

I have said that if a dentist is systematic in his work he may have his evenings to himself, for the reading of proper literature and the cultivation of attainments which will make you an admired and useful citizen in your community and an ornament to your profession. Those of you who have reasonably applied yourselves to the course of instruction imparted in the college have your feet firmly planted on the rungs of the ladder that leads to fame.

What higher aim is there for a professional man than the devotion of a certain amount of his time to the prosecution of original research. There are vital problems in dentistry awaiting a solution, and upon you with the strength of your youthful mind and your freedom from the ruts into which many of the older members have gotten into, devolves the duty of solving these problems. You may not without much labor reach the goal of your ambition, but no man ever put forth a faithful effort along any line without reaping a recompense commensurate with the effort put forth. Get yourselves imbued with the fact that your profession is a noble one and that the services you are equipped to render your patients are not the mere patching of a decayed tooth or the construction

of a denture. Learn first yourselves the full professional value of your services and start right in to educate your patients, and as years pass by you will find it easier to procure a proper reward for your services and less trouble with penurious patients.

Gentlemen, along the line of the education of the public there is an immense and remunerative field of labor for every dentist interested in the advance of the profession. This may be accomplished in many ways : by instructing the patients in the office. By delivering short talks. There are in every town literary clubs, or clubs of some kind where the dentist could give a short paper along educational lines, and, best of all, I believe there should be a dental journal that could be sent to the homes of the people. If a journal be impractical the same kind of educational literature sanctioned by some body of officials should be distributed.

Along the line of public education the dentist must first become imbued with the fact that our calling is a worthy one. He must have some pride in his work. I remarked that we have an institution of which we should justly feel proud. The public have no conception of the breadth of the dental course. They have no idea of our college. and I would suggest that some step be taken by which each member of this association could obtain an enlarged photo or engraving of our college building and of the faculty (they might be made presentable by touching up a bit) to hang in his office and let the public see where we came from, and what the dental profession is doing. I throw out this suggestion and if you think well of it, some definite steps might be taken toward securing them at lowest cost.

**SEVENTEENTH ANNUAL CONVENTION OF THE  
ONTARIO DENTAL SOCIETY, MONDAY,  
MARCH 12, 1906.**

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Discussion on paper read by Dr. W. C. Gowan on "Tooth Brushes, their Forms and Uses," at the Ontario Dental Society, and published in the January issue of the DOMINION DENTAL JOURNAL.

Discussion opened by DR. L. G. CAMPBELL, as follows:—

This paper of Dr. Gowan's we can view in a little different light to anything we have had in any of the recent meetings of this society. The fact of its having been published in the DOMINION DENTAL JOURNAL gives every one a chance to discuss it, and in order to discuss it properly it should be in the hands of every one before the paper is read, especially upon questions on which there may be a lot of argument. Dr. Gowan, in his paper, upsets quite a few accepted theories. Since I have read the paper in the JOURNAL I have been trying to follow his instructions to see if they would be any improvement on my own method, and as far as the use of the brush is concerned I cannot find that it improves very much on the old way that I think Dr. Willmott used to teach, as regards the manipulation of the brush. Of course in that one question there is room for a lot of argument. I thoroughly agree with Dr. Gowan that a patient should be instructed as much as possible in the form and use of tooth brushes, but as to whether or not an antiseptic lotion should be used, that is a matter for discussion. I believe that it should. If it cannot do any harm in any case, it will do a lot of good in some cases, if it is not irritating. The class of patients that would need the most instruction, and to whom a dentist would think he needed to give instruction, in my practice I know consist largely of people who never have done anything, or at least very little, in the way of cleaning their teeth. A person comes in and presents a mouth with very, very dirty teeth, often with an accumulation of tobacco stain, and the gums swollen and inflamed. It is very difficult to get that kind of person to do anything. If Dr. Gowan feels that he can spend enough time to do them any good, then he has a better class of patients at Creemore than I have around Markdale. Of course Dr. Gowan's personality would add to the effect. Dr. Gowan read a paper some time ago, I don't remember on what it was, and I admired him very much, and I thought perhaps that the success he claimed was largely on account of his personality, and I tried to raise a goatee, but I failed. (Cheers.) He says the habitual drugging of the mouth is a useless and pernicious practice. In my opinion a good tooth paste, which contains a little soap, slight grit, an antiseptic and flavor, is desirable. I don't know why it should not be, if you don't get something that you cannot wash out with a tooth brush. We would understand from Dr. Gowan that he washed out everything in the way he brushes his teeth.

In one place a person presented teeth coated with tobacco stains, and he prescribed pumice with a wet brush, leaving it in the hands of the patient. I think that in such a case the patient will use enough pumice to brighten the labial surfaces of the teeth and be fully satisfied, although much mischief may be done in consequence of the pumice lodging under the free margins of the gums. The Doctor didn't tell us when toothpicks were indicated. I always use a toothpick myself. The only time that I find toothpicks unnecessary is when the contact point extends from the morsal surface to the gum margins. This kind of case you don't meet with very often. He says that a dry toothbrush with pumice is much superior to rubber cups or brushes used in the engine. I just tried the toothbrush once to see how it would work since reading his paper, and it may be that it is on account of lack of experience, but I couldn't get in between those teeth. The patient was a man who has smoked tobacco, and he had stains in around the lingual surfaces, and I found it impossible to get around them with a toothbrush at all. I find the best way is to use a small concave brush in the engine. As regards the form of toothbrushes, I can agree with Dr. Gowan in so far as to admit that there is not a perfectly acceptable brush in the market. I would take it from his paper that he advocates the use of brushes which have long bristles, or as long as may be used. Now, I contend that a brush with long bristles, used in the way in which he uses it, produces the least results in cleaning the teeth. If I were to brush my teeth in the way that he wants them brushed I should certainly use a brush with shorter bristles. I will deal with that a little further when I come to his method of brushing. An anti-septic, in my mind, is desirable, because it finds lodgment in the free margins of the gum, where a toothbrush cannot get access, and in the deep pits, that I don't think even Dr. Gowan would claim that a toothbrush would follow. He says "never recommend floss." I take exception to his statement. I think there are certain special classes of mouths and teeth on which floss should always be recommended. I have a patient who has in his anterior upper teeth several gold fillings in the proximate spaces. The normal contact point in his teeth extends from the morsal surface to the gingival line, and since using floss he has never had any trouble with the return of caries above the gingival line. In brushing the teeth the way Dr. Gowan advocates he says brush longitudinally. This rubs the festoons of the gums. He says that by doing that you are less liable to irritate the gums by brushing them in a line with the gum margin. I contend that brushing them that way you are brushing them more against the gum margins than in any other possible manner, because the only part of the gum which you can brush without brushing against it somewhat is a very narrow margin on the contour of the tooth. Brushing the gum that way you come in contact with more free margins than by brushing in any other direction. My idea of brushing is brushing it with an up-and-down motion. When you are brushing the lower teeth never brush against the free margin of the gum that way (indicating). But brush up and then repeat the motion.

For the upper teeth use the downward motion. In that way you do not irritate the gum more than is desirable, and, by the way, I think that those spongy gums ought to be irritated a little bit to stimulate them. I find that the brushing does more good to the gums than it does to the teeth, or at least as much. Brushing the teeth in this manner you brush away from the free margin of the gum and are not so liable to irritate it. The septum of gum between the teeth is attached broadly at the base, extending up to a narrow tongue, and if you brush it transversely you are brushing this edge all the time and irritating it. It is pretty hard to instruct the class of patients that need to be instructed most. I had a number of school children that I tried to teach something about it, and the principal of the school found out about it, and he asked me one day to go up to the school and give them a few lessons on the care of the teeth. I happen to reside in a town where I am alone and no other dentist could resent it as being any chance of getting ahead of him, so I went to the school and found the children so appreciative that I developed the subject and went into the formation of the teeth and the diseases that they are liable to and gave them an examination on it, and I think they all appreciated it. Then the principal of the school suggested to the Teachers' Association of South Grey that they have a paper on the care of the teeth, and I was invited to give a paper at the annual meeting. I did so, and they had some four hundred or five hundred copies printed and sent to all the teachers throughout the district. (Applause). I am not saying this because I think that I know any more or as much as any of you on this subject, but I am telling you what can be done and what ought to be done. I think that is the way to instruct the patients. Get the school children interested. I do not think you will have nearly the difficulty when you instruct the children as you will have when they grow older as they grow more careless about it. (Applause.)

DR. J. B. WILLMOTT.—Mr. President, ladies and gentlemen, I do not claim that I have any expert knowledge about brushing teeth. I have never felt that I could give a patient very definite instructions about brushing, other than pointing out the parts with which the brush should come in contact. In some respects I think Dr. Gowan's paper is admirable; in some respects I take issue with it. The first question that suggests itself to me is, what is the object in brushing teeth? I suppose it is partly prophylactic and partly esthetic. If we wish to make the teeth look nice, there is nothing better than a scientific brushing of them. There is all the difference in the world between a well-brushed set of teeth and teeth that have received no such care. At the close of a meal the buccogingival angle is always filled with particles of food, and in most cases the surfaces of the teeth are more or less covered with the starchy parts of the food. So far as brushing is concerned, the principal benefit to be obtained is the removal of the particles from the exposed surfaces of the teeth. This can be done effectually only by the use of a suitable powder or paste. These should be used with plenty of water, so that all the surfaces of the teeth are well washed. If plenty of water is not used, it is quite possible

with a brush to pack particles of food into the interspaces and leave them there to ferment and do mischief.

Teeth ought to be brushed for the purpose of mechanical cleanliness. A suitable powder is always helpful under modern civilized conditions. I cannot call to mind half a dozen patients who use nothing but a brush and water whose teeth are as clean as they would be if the same attention was given them with the use of a proper tooth powder. I do not think every patient, however, ought to be trusted with pumice or other sharp grit compounded in a powder. In some individuals there is a tendency to deposits upon the teeth, and smooth powder, such as prepared chalk, will not remove it. We want something a little rougher than that; pulverized os-sepia should be added. As to the use of antiseptics in a tooth powder I believe that they do not do any harm, and may do some good, but in the nature of things cannot be as useful as most people seem to imagine they may be. The usefulness of a dentrifice is mainly mechanical. I would prefer that my patients should always use either a tooth paste or a tooth powder, one that is not rough, one that is slightly alkaline, one that does not contain soap. As to brushes, I think there are just two important considerations. They should be small, and the bristles should be fast. I wouldn't want one with any serrations. A brush should be long enough in the bristles so that there is a considerable amount of elasticity. As you pass it slowly over the surface of the teeth and then pull it back, those bristles will drop into the interdental spaces and to some extent cleanse the proximate surface of the teeth, especially if plenty of water is used. The American man's habit of picking his teeth is not good form, but the judicious use of a toothpick is good prophylaxis. The best form is certainly the ordinary quill toothpick. It is very interesting to hear dentists discuss the care of the teeth. It is proverbial that physicians are more careless of their health than any other intelligent persons, and it would be about right to say that the dentists, as a class, are careless about their teeth. Probably Dr. Gowan has a very needy audience before him, and I have been very glad to have him present this paper, although I do not feel that I am specially competent to discuss it.

Not much is gained by brushing immediately after a meal. The starchy food is not soluble at that stage. When it has been allowed to remain for an hour or two it becomes soft. At the hour for retiring I think the teeth are in the best condition to be brushed, because at that time the food has been acted upon by the saliva, and is more readily removed. If they are mechanically clean, for all practical purposes we have done all that is necessary. Rinsing is important. What I mean by that is to fill the mouth with water, close the teeth, then by the action of the tongue and cheeks force the water back and forth over the proximate surfaces of the teeth. (Applause.)

DR. A. J. McDONAGH.—*Mr. Chairman, Ladies and Gentlemen.*—Dr. Willmott has referred to me as holding a view that is not orthodox, therefore it behoves me to defend what I have said, as I have not changed my views at all since I started to study the

question. Ten or twelve years ago I read a paper upon a method of cleaning the teeth, and I did say at that time, and I do say now, that it is my belief that there is more harm done by the brush than there is good, if the brush is used as we ordinarily use it. But I said it is quite possible to use a brush and by its use, helped by floss, to be of benefit to the teeth. I am not going into the subject as thoroughly as I did the last time the Ontario Dental Society met, but there is this interproximate space (illustrating on the blackboard), and when you shove the brush past your interproximate space the bristles are strong enough to throw food into the interproximate space, but they cannot follow as far as they can throw it. I have experimented with them, and I find it is true that they will not drive it out. They throw the food into the small spaces which are left there by nature, and they will not remove it. After the food is softened they will remove it and throw some fresh in for food for the bacteria; but if the brush is used for a long enough time the harm that it does is overcome by the amount of work that the operator does. That is the reason why I am in favor of cleaning the teeth, but I cannot say that I am in favor of brushing the teeth as they are ordinarily brushed. There are several points in Dr. Gowan's paper that I was going to take up, but they have been very ably dealt with by other gentlemen. However, I want to state my position with regard to the brushing of the teeth longitudinally and laterally. I have a great deal to do with patients who have pyorrhea alveolaris. After I have treated them for it, I instruct my patients never to use the brush longitudinally and never to use it up-and-down, because a great many patients will use the brush on the upper and lower teeth up-and-down. They close the teeth together and throw the particles of food under the free margins of the gums and into the pockets. I always advise my patients to brush the teeth from the gums on to the teeth; from the gums always. With reference to the question of brushing the teeth with water or with water and an antiseptic powder, I have a patient who comes to me who never uses powder or paste. Her teeth do not look quite as beautiful as they might if she used powder, but they are fairly healthy, and I got her to brush her teeth with water one day as she was used to brush them. Then I put on the rubber dam, after she had brushed her teeth and thought she had them clean, and I took some sodium dioxide and I was able to quite readily form a soap upon her teeth, showing the fatty matter there. Of course she cannot use that in her ordinary daily use. With regard to an antiseptic powder or paste, by the way, I will make an announcement that I did not intend to in bringing up the subject. There is a society formed in the City of Toronto called the Canadian Oral Prophylactic Society. One of the objects of that society is to examine tooth powders, etc., and if they cannot find what they desire on the market to manufacture them. We found that there is an ounce of honey to three ounces of paste in tooth pastes that we, as intelligent dentists, have advised our patients to use. They like the taste of the mixture, and they like the effect it has on the mouth. At the present time the Canadian Oral Prophylactic

Society are at a standstill so far as tooth paste is concerned. We understand from the manufacturers that they cannot be made unless glucose and honey or simple syrup are used in the manufacture, and we do not feel that we are right in advising our patients to use such things. We have gotten out a tooth powder, and we are going to rest for the present. There is just one other point. I think there are none of us who have large enough mouths to use the brushes we have here. I think they are altogether too large. (Applause.)

DR. WEBSTER.—I think we ought to have the benefit of Dr. Good's experience in connection with the brushing of the teeth.

DR. GOOD.—I believe in brushing the gums just as much as I do the teeth. I believe, as the last speaker says, in pushing the brush away up as far as I can get it. If we can get into the interproximate spaces in any way, we can do it in that way. I believe in using a tooth powder too. (Hear, hear). I do not use it myself because I know enough to brush my teeth properly, but I do advise my patients to use it for this reason. Every one of our patients will take greater pains to brush the teeth with a powder than they will without. But I never advise the use of a tooth paste. If my patients ask me what powder I advise I tell them to go to a druggist and get prepared chalk flavored to any flavor they prefer. As to dental floss, I think there is a great deal of harm in the use of dental floss because people do not know how to use it quite well enough. The same way with toothpicks. I believe in brushing the teeth and that it is a good thing, just the same as I believe in taking a bath. (Applause).

DR. W. G. GOWAN (Reply).—In regard to pumice. That is recommended, as you will see by reading the paper, only in special cases and for a limited time. It is much better to allow a patient to clean his teeth with a toothbrush than to try to do it with the engine. Of course, it is plain that I do not recommend pumice to be prescribed for patients to use at their own discretion. In regard to floss, you know in a good denture the teeth are in contact. If floss passes the contact-points with a snap it will injure the gum. If drawn back and forth it will injure still more, and a person uninstructed in dentistry does not know that harm can be done in this way. I think it an error to recommend floss for a patient's use. Long bristles in tooth brushes have a better chance than short ones to penetrate spaces. I have not had a chance to demonstrate the movements recommended. It is exceedingly difficult to describe in words what that movement is. The gingival margins in the molar region have no such outlines as Dr. Campbell has drawn. Upon the buccal aspect of molars their outlines vary but little from a straight line, therefore a longitudinal movement of the brush will follow these lines about each molar in a more effective and less injurious manner than a lateral motion of the brush will do it. Examine any cast and you will see there is a marked protrusion over the molar teeth. The attempt to pass the brush downward over this protrusion crossing the gingival margins to cleanse the spaces between molars results in irritation



of the gum and failure to cleanse. Attempts to rotate the brush in this region are quite as unsatisfactory, unpleasant and irritating.

In regard to antiseptics, pastes and powders, taking them altogether. If you introduce those things to a patient and recommend the use of them, they think that the powder or the paste is going to do the work and neglect the brushing and washing. But if these things are kept wholly out of the way there can be no doubt you mean washing the filth away just as they mean washing when they do toilet or laundry work or scrubbing—that it is really washing that you mean—not humbug with powders and pastes, or superstitious dependence on so-called antiseptics. That is one important reason why I do not recommend medicines, powders or pastes for general use at all. There are other reasons, as we shall see later on. As to soap. Now somebody asked how are we going to remove the fats? Gentlemen, you needn't be alarmed about the fats. They do not undergo acid fermentation. If putrified their reaction is alkaline. They can be washed away with water without soap. About serrations in the brush, I must say that I could not procure a brush that is according to my wishes. The serrations in a brush are necessary so as to leave the brush sufficiently thin, as it were, that when divided upon the teeth the intervening bristles will pass far in, and in order to make the brush do so I do not propose that any cross-cut saw stroke shall be generally adopted. I advise a very short stroke to keep the bristles working in one place until they go far in between the teeth. I thank you for your attention. (Applause.)

## PROPRIETARY PREPARATIONS.

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BY DR. HAROLD CLARK, TORONTO.

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Read before the Ontario Dental Society.

The growing number of proprietary preparations seeking the endorsement of the dental profession makes the consideration of this topic a very timely one, and I should like my remarks upon it to be regarded more as the opening of a discussion than the setting forth of fixed and final views on the subject. It is important, indeed, that the profession should establish as far as possible well defined and unified views upon their relation or attitude toward all these preparations, views that will be fair-minded, ethical and intelligent, and always in the interests of the patients who confide themselves to their care.

Proprietary preparations is a term of very broad application. It runs the whole gamut from the wonderful medicines that, according to newspaper advertisements, have cured senators, generals, colonels, judges and divines of almost every disease "from acne to zymosis," to quote a celebrity recently in our midst,—from such nostrums all the way up to such well-known and well-tried productions as formalin, adrenaline chloride or dioxygen.

A proprietary preparation put out by a well established and reputable manufacturing firm should have many advantages. First of all, such a firm will not risk its reputation or the expense of putting on the market an article that is not a useful one and one assured of success. The best preparation is seldom the result of an offhand formula of a prescribing physician, but rather is it the outcome of innumerable experiments with modifications of some intelligent and carefully constructed prescription. Such preparations have all the advantages of the expert skill and up-to-date apparatus found in a well ordered laboratory; also in the compounding and preparation have they the advantage of the machinery and other equipment found in large drug manufacturing establishments.

The question of the ethical propriety of recommending preparations of unknown formulæ enters at once into the discussion of the subject. The motives for concealing the formulæ of most advertised nostrums are obvious. They are seldom to prevent the discovery of a useful and specially valuable prescription, but rather to avoid the disclosure of its commonplaceness, its uselessness, or even in many cases its harmfulness. I was working for the president of a company that manufactured a celebrated "patent medicine," and in conversation he said that at a meeting of patent medicine manufacturers an experienced man offered the statement that if a formulæ had fifteen per cent. merit good advertising would do the rest and make it a commercial success. I repeated the statement to a medical friend, and his sardonic reply was

"Why waste so much good merit?" The significance of his observation is manifest when we look at the formulæ of some well-known "patent medicines." For instance, a well-advertised eyewater guaranteed "to cure eyes" and make weak eyes strong, upon analysis is said to be made from this wonderful formula: "Boric acid, 1 part; glycerine, 5 parts; water, up to 100 parts." Again, Liquozone, "Simply liquid ozone," to quote its own advertisement, upon analysis is said to contain no other agents than a little sulphurous acid and a little sulphuric acid—really a reducing agent instead of an oxidizing agent. Then, again, many of these preparations contain dangerous quantities of lead, mercury and habit-forming drugs. Coming into our own field, how many local anesthetics have sought our favor, guaranteed to be absolutely safe and to contain no cocaine, which, upon analysis, revealed large percentages of the drug. Years ago we read of pressure anesthesia in our journals from the pen of some investigator. A year or two after, the right to use this method was peddled around the profession as a secret not to be disclosed. At a later period other investigators exploited the far-reaching antiseptic virtues of formaldehyde in putrescent conditions of the pulp. Being simply a gas in solution in the same way as ordinary ammonia in water, when placed in a putrescent canal the sterilizing gas permeates and sterilizes far beyond where any liquid would reach. Subsequently, presuming upon the large number of the profession who do not read journals, several magic preparations were put on the market that would cure the most stubborn dental abscesses. The formaldehyde contained gave successful results where the ordinary agents had yielded only failure, and in consequence an immense trade is still being carried on selling a small drachm of the miraculous fluid for the price of a pint. One of these has come out more recently supplying for the same price about two drachms and exploiting the virtue of being non-secret. The necessity for the great price is explained by the claim that it required a difficult and expensive process to force the formaldehyde into the creasote. The force necessary, by the way, is exactly what is required to pour a liquid from one vessel into another. The alcoholic solution of formaldehyde is of course freely miscible with creasote, carbolic acid, essential oils or other similar fluids. If we know the percentage of our formaldehyde solution it is easy to calculate the amount necessary to add to our creasote or other solvent to obtain any desired strength of the formaldehyde.

Presuming upon this same gullibility a bolder class of proprietary preparations has been marketed recently among the profession. A series of formulæ for the purpose of rendering dental operations painless, which formulæ were to be kept a secret by the purchaser, were sold to members of the profession for a consideration. These formulæ reveal nothing but what is commonplace, useless or harmful. To use one of them according to directions might easily leave the professional dupe with a fatality on his hands to account for.

Another class of proprietary preparations are those anodynes such as ammonol and antikamnia. These are, pretty widely pre-

scribed, even by reputable men, in both the medical and dental professions because the constituents are pretty well known. The basis in each of the two named is said to be acetanilid, with ammonia carbonate in the one and citrated caffeine in the other as correctives. Acetanilid is a drug that so frequently finds a patient peculiarly susceptible to its sedative action that it must be classed among the dangerous drugs, and should be prescribed with corresponding caution. In using these preparations the practitioner doesn't know exactly how much of the potent drug he is giving, and he is making his patient pay for all the advertising and high profits put on these remedies. All the large drug manufacturing firms make tablets that correspond with these preparations and are only a fraction of the price, and give the exact formulæ with them. I quote two or three formulæ from Wampole's price list: Acetanilid, gr ii; Ammon. Carb., gr ss; Caffein Cit., gr ss. Price, 17c per 100. Another, Acetanilid, gr. iiiss; Caffein, gr. ss; Sod. Bicarb., gr i. Price, 21c per 100. Ammonol, wholesale price, about \$1.50 per 100. Over seven times the price for the same article.

Perhaps our interest in proprietary preparations is most aroused when we come to the various mouth washes and dentrifices we are asked to recommend to our confiding patients. We have a long list of proprietary solutions that seek our favor. Some of them make no attempt to enlighten the profession as to the ingredients contained. Some mention, without quantifying, a few of the ingredients. Others print on the label that each fluid ounce or each dessertspoonful of the solution contains certain ingredients and certain quantities of them. I don't know of any of these that give all the ingredients contained. One preparation tells us that it is a fixed principle in professional ethics, and one founded on good judgment, that no preparation of unknown composition should be prescribed. Its manufacturers acknowledge the prerogatives of the profession and draw attention to the fact that there is no mystery about its composition. Its ingredients comprise the "well known virtues" of salitrol, limocene, formol, plantago major, menthol and spirits of cologne. All except the first two are quite familiar. Although these two are claimed to be "well known" I had to confess to myself my ignorance of them. I consulted all my literature bearing on the subject, also my druggist and two wholesale firms, and all were as ignorant as I of these two well known agents. I wrote the firm asking for information, and received a quotation from their advertising literature to the effect that the one was an antiseptic obtained from the action of phenol on boric acid, and the other was a neutral oxidizing agent, but they omitted saying what they were. Assuming that I had not made myself clear I wrote again, asking for a more particular description of these agents and for samples of them. Up to the time of writing I haven't had a reply. When we come to consider tooth pastes and tooth powders, we find very little information concerning their constitution. The most that I have been able so far to gather about any of them is that they contain the essential properties of some medicated solution put up

by the same firm. This, of course, is quite unsatisfactory. We all know that the forcing of any insoluble particles beneath the gum margin is really a very dangerous thing, being one of the most potent causes of pyorrhea alveolaris, and yet how many of us know that the proprietary dentrifice that we recommend contains no ingredient that is insoluble in the fluids of the mouth. As a matter of fact many of them do contain such undesirable materials. Again, the main object of using a dentrifice is to remove from the teeth all fermentable substances. How many of us know that the tooth paste we recommend contains no sugar, syrup, honey or other fermentable. As a matter of fact we know that at least the majority of them do. Some of our best manufacturing firms claim that it is impossible to make a satisfactory paste without one or other of these as a menstruum. Contemplate the professional intelligence we display when we ask our patients to wash fermentables off their teeth with another fermentable. If a satisfactory tooth paste cannot be made without these undesirable ingredients we should cease to recommend them altogether and substitute tooth powders. We should also know the component parts of tooth powders.

I do not think it necessary to elaborate further on the subject to arrive at well defined conclusions. My own is that it should be a fixed principle with every intelligent and conscientious practitioner that he should not use, prescribe or recommend for his patients, who rely upon his professional knowledge, any proprietary preparation of which he does not know the composition.

From the courtesy and apparent frankness I have found in correspondence with some of our best-known manufacturing firms, I am disposed to believe that they are quite willing to reveal fully the formula of any preparation they ask us to recommend to our patients or to modify any of their formulæ to suit our requirements. Failing this, I would offer as a personal suggestion that the profession of the Province agree upon formulæ, have them put up by a reputable firm, and supplied to the public at reasonable rates. If any profits from them accrue to the profession, I would also suggest that it would be in better keeping with professional dignity to have them used in some way to promote the advancement and usefulness of dentistry rather than that a pittance should dribble into our pockets, and make it seem that our motives in recommending these preparations were not disinterested.

In conclusion I should like to express the hope that Canada may soon follow the example of France and Germany, and pass legislation that will make it compulsory that the full and exact formula of every proprietary preparation be printed on the bottle or package, and make it a punishable offence to falsify in any way the statement of contents.

#### DISCUSSION.

DR. C. H. WALDRON, Toronto.—I do not think I assume too much when I say that everyone present fully concurs in all that Dr. Clark has presented to us in the paper just read. I would especially commend his conservatism in looking with

distrust upon such preparations as do not emanate from well-known sources or through reliable channels of supply. And even then it behooves us to be cautious. It is only a few years since we had with us at one of our conventions a specialist in cement fillings. During the discussion which followed his address, our worthy Dean mentioned a new production which the essayist had wrought out in his own laboratory and asked for particulars concerning it. His reply was that as he was there in a professional capacity he had refrained from introducing personal affairs, and further that it was almost too soon yet to speak with any certainty concerning it. I understand that that one's preparation, Archite, came near financially wrecking a well-known dental supply house in its endeavor to introduce it, not to speak of the interest of the individual dentists. Right here, although strictly speaking cement filling materials are perhaps only indirectly proprietary preparations, I would like to ask what progress has been made along that particular line. Surely there is ample opportunity for advance, and I hope the paper upon this subject will give us some encouragement.

But to return to the subject proper. What is the meaning and the lesson to be learned from this kaleidoscope of samples, circulars, advertisements, etc., which besets us?—this neck-and-neck race, as it were, with patent medicines, health foods, the flotsam and jetsam of the commercial world, and the almost overwhelming deluge from our literary press. With regard to our profession, I think it means that we are all earnestly endeavoring to alleviate suffering, to successfully perform our operations with comfort, or a minimum of discomfort, to our patients, and, that which is the supreme object of our practice, to preserve their natural teeth. Hence our anodynes, local anesthetics, obtundants, root canal dressings and prophylactics.

As to the anodyne acetanilid, I repeat Dr. Clark's admonition to prescribe it with extreme caution. I had one patient so susceptible to the drug that after having applied trichloroacetic acid to check hemorrhage at a large foramen of an anterior tooth, and then applying a dressing of campho phenique, she declared the next day that what I had done had affected her like a dose of phenacetine. My own practice is to give the patients a limited number of the tablets without letting them know what they are, so that they can procure no more elsewhere. I resort to their use only *in extremis*.

With regard to the local anesthetics, obtundents and dressings, I plead guilty of being very conservative. In most cases the simplest remedies yield the best results. Dr. Clark's reference to the remarkable eye-lotion recalls an incident that came to my notice not long since. A gentleman in Ottawa had some trouble with his eyes, and not progressing as rapidly as he thought he should under local treatment, he went to an eminent specialist in New York. He was somewhat chagrined to find that the prescription consisted of boric acid, glycerine and water. Now, I use cocaine right along without much caution as to its strength. I believe my solvent is the safeguard, absolutely localizing its effect. I use my

own preparation of what is almost if not quite the same as Listerine, and I apply it by means of cataphoresis, seldom using the hyperdermic needle. The method acts almost like magic in the absence of after-effects and the healing of the gums. The only case for alarm that I have had in my twelve years of practice was when I was still using the needle, and that patient went through precisely the same programme at a subsequent sitting at the mere prick of an explorer.

For root canal dressing I use campho-phenique, 1, 2, 3, iodine and creosote, guaiacol, and in special cases a compound of my own which is something like thymoform, to judge from its name. I fill with aristo-gutta-percha points and ch. cl., sealing with oxychloride of zinc.

Of the prophylactics, what shall we say? If we are to exclude all insolubles, all the powders and pastes must be placed on the black list; for the whole category of basic ingredients are insoluble. *Or sepiæ creta precip., creta prep., orris root, and calsaya*, sapo pulv. being about the only soluble used. Of the two, powder or paste, I prefer the latter, since the sweetening substance used is usually glycerine instead of sugar. The former is both antiseptic and non-fermentive. My ideal of a paste would consist of creta prep., not precip., orris root, sapo-pulvis and glycerine, combined with the essential ingredients of some of the reliable lotions, according to the requiring conditions of the mouth.

I prefer, however, lotions, and here we have quite a list from which to select—Listerine, borolyptol, formoloid, euthymol, all of which are acid in reaction (probably boric); alkathymol and glycothymoline, both of which are strongly alkaline; and lastly sanitol, which is nearly neutral, just slightly acid in reaction.

In my own practice I prepare, as I mentioned before, a lotion nearly the same as Listerine, and also an alkaline, one similar to alkathymol, and with these I combine, as the conditions may require, other ingredients, such as formalin, phenol hydronaphthol, and tr. myrrh.

## SECOND DAY—AFTERNOON SESSION.

TUESDAY, March 13th, 1906.

Convention resumed at 2 p.m.

Discussion continued on Dr. Harold Clark's paper, "Proprietary Preparations."

Speaking of tooth powders and the gritty substances in them, Dr. Clark interjected: I should have liked to have given one instance last night. It stands out as a very illustrative case. When I was a lad going to school in the city here, one school-master I had was a very fine type of a man who is still a school-master here. He used to instil into us all sorts of Spartan virtues—the use of cold baths in the morning, and all that sort of thing. Even yet he takes his half-hour's exercise before an open window in winter, and then plunges into an ice-cold bath. I remember

he told us how he prepared an excellent tooth powder. We were to take a pan of ashes from anthracite coal, and we would find a certain part of the ashes that could be crushed between the fingers and was not harsh or gritty at all. He told us to pulverize it and put the powder into a pail of water, stir it up, and leave it for a few moments until the heavier particles had fallen and the water simply looked muddy; pour this cloudy water into a pan and let it settle over night. This powder when dry was his tooth powder. I remember that he had nice clean teeth, and now I have the care of these teeth, and there is practically not a bit of enamel on any of them—he simply ground it off with the grit. The teeth are healthy otherwise. To me it is a most convincing example of the mischief that is done by having gritty substances in dentifrices. When I speak of a grit I don't include precipitated chalk, I refer rather to some form of pumice stone or charcoal, or even cuttlebone. If some form of chalk will not remove the accumulations on the teeth, a person should seek a dentist periodically, who will remove them with a minimum amount of abrasion.

DR. C. H. WALDRON, Toronto.—It was by mere accident that I used cocaine with listerine. One day I found that the water supply had been shut off, and I turned to my listerine bottle to dissolve the cocaine, and the effects were so remarkable that I have always used it since. I say my listerine bottle. For a long while I have made my own preparation of listerine, using the non-quantitative formula as my guide, and experimenting with it until I obtained a solution that suited me, and that is what I used for my solvent of the cocaine. I merely poured into my bottle a small quantity of cocaine and a few drops of the listerine, and shook them up, and went on using it.

THE PRESIDENT.—In the regretted absence of Dr. Corrigan we will now throw the topic open for general discussion. I would like to hear from Dr. Webster on his paper.

DR. A. E. WEBSTER, Toronto, was received with applause, and said;—I did not expect to be called upon to discuss this paper, though I have had some acquaintance with what has been done and what is being done in this city in connection with the suggestions of the essayist. It might not be out of place to mention the death which has been reported in the daily papers recently of a man in Cobourg, who had a headache, bought a headache powder, and died about three hours after taking it. That shows, at any rate, how careful we should be in prescribing such remedies as headache cures and pain cures.

In connection with the organization of a body of dentists who might investigate and examine into proprietary remedies placed on the market, I might say that there is an organization at the present time in Toronto, which is giving its time to that subject. There is no reason why, for instance, our college should not make reports on all those proprietary remedies, or any of them, and send them out to the profession as valuable bulletins are sent out to the farmers from the Ontario Agricultural College, Guelph. (Hear, hear, and applause). We should have such a corps of experimenters here that no new treatment should come out that we



should not know it first hand ; and, chiefly, know the merits of it. (Hear, hear.) And besides that, we should go further and be prepared to bring out the new things from here—to educate the public and to educate the profession. (Applause.) It is no mean function, as I take it, for a faculty of any school, and particularly a faculty such as we have here, which is employed by the profession to work for the profession. We should be so equipped that we could do that work. The organization to which I referred a moment ago appointed a committee last October to investigate some of these proprietary remedies, see what their values are, and report on them, particularly in reference to mouth washes, tooth pastes, tooth powders, tooth brushes, and prophylactics in general. That committee has been working very faithfully since October, and has little to report more than this, that so far as they have been able to make out, there is not a tooth paste on the market that is acceptable. (A voice, "That's right.") There may be tooth powders on the market that are acceptable, but we don't know it. We are not in accord altogether with the constant and perhaps harmful drugging of the mouth prescribed by the manufacturers. We have gone far enough to make out that all the tooth pastes on the market with the exception of one, which is a very poor one, contain such ingredients as honey, simple syrup, plain glucose, and gelatine. Gelatine is a slowly soluble substance, and when mixed with glucose, and used just before the patient retires, in cases of recession of the gums where there is pyorrhea—and, as one man has suggested, squeezed it down into the pyorrhea pockets—we must expect the necks of the teeth to be sensitive. We have prescribed such nostrums.

We find more—that we cannot get the prescription from which these manufacturers make their preparations. In fact, we have sent prescriptions to be filled, and manufacturers have used ingredients in our prescriptions that we knew nothing of. In fact, we were four months finding out that they were making these things up for us and not filling the prescriptions as written. Now, when we find that tampering with a prescription that is sent to a manufacturer, how do we expect to get a true prescription of what is sent out by themselves? I said to one of the manufacturers that we desired to put the prescription on the box or on the tube that we sent out. He said, "Do you mean to put the right prescription?" I said, "Yes." He said, "Well, I wouldn't have anything to do with it. That would not do at all. I would put a prescription on, but it won't be the right one." Now, that was frank. That manufacturer has tooth pastes on the market that probably you recommend. When they say that glycerine is the menstrum out of which they make the paste from the powder, it is not a fact. It may contain glycerine, but that is not all. Dr. Stuart has helped us to the extent that I have reported to you now. We have gone far enough to know that it is not right to recommend a paste unless it can be made without sugar, honey, maple syrup or glucose or gelatine. Now for grits. Nearly all of those preparations contain the sharpest grits that they can make them contain. When the solutions were made from

some of those tooth pastes we found a good grit in the bottom of the solution in most of them. There is no objection to using a grit, in my opinion, if we recommend it ourselves and know the indications for it. We could not get along in the Infirmary without pumice stone for the teeth. Many of our patients come to us with—you know how much on their teeth. (Laughter). You must get it off, and it takes quite a while to do so, and pumice stone is a good thing right there. Further, the organization of which I am speaking is undertaking, if possible, to put on the market dentifrices—mouth washes, if necessary, and proper forms of toothbrushes; and when that committee decides to do a certain thing you may depend upon it that you will know all about it, and that it will be in accordance with their best judgment, and they will look to you for your endorsement. More than that, if any profits shall accrue from the putting of these articles on the market, those profits shall be expended in the education of the public, the education of the dentist himself, and the further advancement and elevation of the profession. (Loud applause). I am told that one prescription, written by a surgeon some years ago in the Liverpool General Hospital, has a sufficient income at the present time from its sale to support one whole wing of that hospital. Now, if we could do something in that connection with the new hospital, which is going to be placed in this immediate neighborhood, it would be something worth striving for.

DR. CLARK.—Is the prescription public?

DR. WEBSTER.—It is.

DR. COGHLAN.—How do they derive a revenue from it?

DR. WEBSTER.—From the sale.

DR. COGHLAN.—Can any manufacturer put it up?

DR. WEBSTER.—I don't know how that is managed. There must be some patent or copyright on the name that is used.

DR. CLARK.—They may prevent anybody from using it although the formula is known.

DR. WEBSTER.—I am not sure how it is done, but that is the fact. We have some such views in our mind. The committee which was appointed to investigate these matters comprises Dr. McDonagh, Dr. Willmott, Dr. Adams, Dr. Trotter and myself. I have nothing further to say, except perhaps that Dr. McDonagh, who is the money spirit in the organization, may wish to make a few remarks. (Applause).

DR. McDONAGH.—I am very much pleased that there is not very much left for me to say. The society which is formed, and of which Dr. Webster is such a useful member—I don't really know how we could have gotten along without him—has been doing a good deal of work it is true. I am not going into the object of the society any further than Dr. Webster has gone, and I am not going to take up your time any more than is necessary. As Dr. Webster said, we have a tooth powder at the present time which is as nearly perfect as we can get; and for the prescription of that tooth powder we have in a great measure to thank our worthy Dean, Dr. J. B. Willmott. (Applause). Dr. Willmott has given us his time on the Committee, and put himself out, for his

time is very valuable, and, of course, all the members of the Committee have done some work, but we particularly appreciate the work that Dr. J. B. Willmott has done for us. The name of our society is The Canadian Oral Prophylactic Association. We think we will be incorporated; we have the laws of incorporation now; we will be incorporated as soon as seven of us sign the document. We are going to be a limited company inside of a week so that we will have power to do business, otherwise we would be liable to a fine of \$25 a day. Up to the present time I have been taking the responsibility so that we could do business, but as soon as the society is formed it will not be necessary for me to stand the responsibility any longer. The name of our tooth paste, if we are successful in getting one—and we are using every effort at the present time to get a tooth paste that will contain no injurious ingredient—and the name of our powder, our brush, and everything else that will be put on the market, will be "Hutax," made up from two Greek words, Hu and Mastics, meaning Health and Mouth. That name also will be on the boxes and packages. We have applied for the patenting of that name. The society will take in every ethical dentist. The first twenty who went into it paid \$10 apiece, that is, they paid \$5 for their initiation fee and lent us \$5, so that we got \$200. There are about four or five others who have asked me if they could not pay in \$10, but we had agreed only to take in twenty at \$10, because that was all the money we needed at the present time, so that now any person who enters the society can not pay more than \$5; that is the fee for entering the society. We do not need money, because we are not running a large manufacturing plant and that sort of thing, but we want every ethical member in the profession in Ontario to be a stockholder or member of our society, and we want every man to take an interest in it and push it forward. There may be, of course, a benefit to the members of the society. They may get benefit out of it outside of the knowledge that they are recommending what is absolutely right, and outside of the knowledge that they are doing a great good to the public. There are schemes which we can use which will be of benefit to the dentists of the country, but that is outside of the question altogether. We must enter the society with the idea that we are promoting the good of dentistry and the good of the people, and that our entrance fee is \$5, and that is all we will ever be called upon to pay. I have nothing to say regarding the work that has been done here further than what Dr. Webster has said. What he has said has brought its own praise with it. You could not imagine a more meritorious work carried on for the dental profession, and I hope that in time our "Hutax" will be known through the profession all over Canada and, perhaps, the United States. (Applause).

THE PRESIDENT.—I think this has been most interesting, and we will look forward to great results from the work that has been undertaken. I will ask Dr. Clark to close the discussion on this paper, as we are encroaching on the time of the next paper. I would like very much personally to hear from a number of the members present, but we cannot afford the time.

DR. CLARK.—One gentleman has been waiting all the time to ask one or two questions.

DR. GOWAN.—The terms "antiseptic," "disinfectant," "sterilizing," etc., have come into such common use among the dentists of this society that I wanted to ask if there is any person present in this room who can offer any positive evidence whatever that sterilization or antiseptic influence can be had in the mouth. Is there anybody present who can offer positive evidence of having accomplished sterilization in the mouth with a drug, or that would lead us to believe that the mouth can be rendered aseptic by means of a drug?

A MEMBER.—It can be made sterile by pure carbolic acid, but the patient will get the worst of it. (Laughter.)

DR. CLARK.—I wish to thank those who took part in the discussion. They have treated me very kindly, although I felt sometimes as if the discussion had wandered off into other fields. However, it was all very good. I was going to answer the question that was asked last, but I think it has been answered as well as I could have answered it.

DR. GOWAN.—Then why continue to use those terms in regard to dentrifices, mouth washes, or anything else?

DR. CLARK.—By the liberal use of water with a brush is accomplished pretty nearly all that we can accomplish. Perhaps, if you have something that is pleasant to use, it means a feeling of stimulation. If the water has enough ice in it it would perhaps accomplish the same thing, for I think that an article that is pleasant to use has its value. If you tell a certain patient to use plain water with a brush, he may keep it up for one week or perhaps one day. If you recommend to him something that is just as nice, that leaves a pleasant feeling in his mouth, he would probably keep it up longer, and it may become a habit, although it may be of no more therapeutical value than the water. I don't think that there is a great deal more value from a therapeutic standpoint in a great many tooth preparations than there is in water. I have a little seven-year-old boy, and when I give him a preparation I know he has something to work with. I don't have to watch the operation quite so carefully as when he is using plain water, and we are all children of a larger growth. (Applause.)

## Selections

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### DENTAL THERAPEUTICS.

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BY GEORGE W. COOK, B.S., D.D.S., CHICAGO, ILL.

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Dearborn Medical College.

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In the discussion of the methane series, especially that pertaining to chloroform and ether, we have seen how they affect certain cells and tissues, and the biological phenomena that is connected with these two last named agents with reference to their action has not as yet been fully cleared up. Ether and chloroform act on the central nervous system and produce many of the phenomena observed in alcoholic action of this same series. It will be observed, however, that the habitual use of chloroform and ether does not bring about the conditions constantly observed in the habitual use of alcohol.

In the administration of ether and chloroform as anesthetic agents it has been observed that the paralysis of the central nervous system begins very much in the same way as alcohol, by first affecting the highest cerebral function passing down through the lower intracranial distribution. We might say that the very highest function of the nervous system of higher animal life is first affected, and the effects passing on to the distribution of the nervous system that is distributed to the less important tissues and cells of the body. According to the best authorities upon brain physiology is that self-control belongs to that part of the animal physiological function which stands for the highest for all vitalistic function of cell life, and it may be said that all the compounds of the methane series seems to affect self-control on the very first appearance of its action of the animal economy. The spinal cord is the first affected, the effects then passing to the medullary centers, which are really the last to become paralyzed.

Some of the best writers upon this subject are of the opinion that the motor centres of the brain are the first stimulated, followed by paralysis. The discussion of this phase of the subject need not be discussed here, for the simple reason that all the points were brought out relative to the effects of alcohol, chloroform and ether in the former paper. The excitement that follows the administration of chloroform and ether is supposed by some to be due to the irritation which they produce on the periphery nerve endings.

It might be well to remark here that the depression of the motor brain centres with ether and chloroform have proven experimentally to be greater than in the case of alcohol, for the simple reason that it requires a stronger electrical stimulant to produce muscular movement than it does in case of alcohol.

The question is sometimes asked, does the anesthetic produce

insensibility equally throughout the body at the same time? This question can only be answered negatively, for it is a well demonstrated fact that the back and the extremities are the first to become affected, followed by the genito urinary tract. There has been considerable discussion as to whether the depressive effects of these agents take place first in the sensory or motor centres. The weight of opinion, however, seems to be in favor of the sensory nerve centres really being the ones that are first depressed. This is of such little importance that it seems quite unnecessary to go into the discussion of this question at this time, for the simple reason that the depression in one of the centres is very rapidly followed by the same effects in the other.

It might be well to state in this connection, however, that electrical stimulation of the motor area produces movements sometimes after sensation has been lost, but the irritability of this area becomes entirely passive when the profound stage of anesthesia has been brought about; then the medullary centres become paralyzed, but this centre can be affected by reflex stimulation long after it fails to send out impulses. The respiratory centres will respond to stimulation for a considerable time if the superior laryngeal nerve is accessible to electrical stimulation. The motor cells seem to be only partially paralyzed under such circumstances, being unable to send out nerve impulses unless these impulses are received from the sensory nerve endings. This peculiar phenomenon is probably the result of asphyxia under these anesthetics.

Chloroform and ether act upon the respiratory centres both in a direct and indirect manner. In the first stage of the anesthetic the respiratory movements may be temporarily stopped by reflex actions due to the irritation at the peripheral end of the trigeminus in the nose and throat and the pneumogastric in the larynx and bronchi. It may be said, however, that this depressive condition of the nerve endings of the organs of respiration usually will not last long. In the second stage of anesthesia respiration usually is very much interfered with and sometimes appears very irregular. This is frequently the result of convulsive strugglings, which as a rule, are followed by periods of asphyxiation, alternating with gasping movements of the respiratory organ. When the third stage is reached in anesthesia the peripheral nerve endings have become paralyzed and the reflex irritability is entirely lost and the direct action of the anesthetic agent is manifested by the slow, shallow respiratory movements, and if the anesthetic is pushed this condition may increase until the cerebral centres have become completely paralyzed. In man and the dog and cat respiration is gradually slowed down, becoming entirely extinct, while in the rabbit there is a period just before respiration ceases in which the animal breathes rapidly and readily for a few moments and at once respiration is completely arrested. Up to the present time there has been no explanation given as to why this difference exists between the rabbit, dog and cat.

The action of anesthetics on the circulation was not very satisfactorily studied because of the complication that might exist between the respiratory action and the circulation. So it became

necessary in order to study the circulatory conditions that artificial respiration had to be kept up and the blood examined while aeration was going on and the first changes observed in blood pressure was a slowing or even a temporary standstill. This condition of slowing is due to reflex stimulation of the inhibitory action of the nerve centres. In some cases there is a short rise in blood pressure a condition that is due to the reflex action on the motor centres. In other words, the temporary standstill of the heart is due to reflex action on the inhibitory centres, while the rise in blood pressure is due to the action on the motor nerve centres.

These conditions are beautifully illustrated by apparatuses that are used for such purpose, and in order for one to understand thoroughly the meaning of such conditions they must study the animal's heart during the process of anesthesia by these instruments. If the blood pressure be raised for a short time and the administration of the anesthetic is continued it will be observed by the tracer that the fall in blood pressure will begin to manifest itself and gradually become slower and slower, and if the anesthetic is continued the blood pressure will fall to zero, which is an indication that the heart has ceased to respond.

Many apparatuses and devices have been instigated for the purpose of stimulating and starting the heart in motion again after it has fallen to the zero point. Some extremely interesting experiments have been carried on by Dr. Neal and Professor Stewart, Professor of Physiology of the Chicago University. It would be quite impossible to go into the discussion of this subject just at this time, in as much as their experiments have not been completed and published in full. But those who may be interested in this phase of the subject can find what has been accomplished in the various physiological journals in the last few years.

As to the fall of blood pressure and just why such condition takes place is a question that has been discussed by a number of investigators, the majority of whom are in favor of the opinion that the weakness of the heart is primarily the chief cause. There are many, however, who believe that the heart is not affected and that the slowing is principally due to the failure of the vasomotor centres to respond to the sensory nerve stimulation which is transmitted to the motor centres.

It is quite commonly believed that there is considerable difference between the action of ether and chloroform on the circulatory system, but the majority of experimenters believe that there is practically no difference between these two drugs. It might be said, however, in passing, that as a rule chloroform acts more powerfully in a larger number of instances than does ether. The frog's heart beats more slowly and weakly and becomes more dilated with chloroform and ether than is usually the case in the mammalian heart.

The auricular portion of the heart is acted upon by smaller quantities of these drugs than is the ventricle. The former portion of the heart may become so weak that it will scarcely make a tracing of the apparatus, while the ventricle continues to keep up its action for some time. Therefore the action of chloroform and ether

on the heart is manifested in the weakening of the auricular contraction, with sometimes increased ventricular action. During anesthesia it was found that the blood current in the veins of the extremities was very much slower than usual, while in the brain and abdomen there is a decided dilation of these vessels (Pick), thus increasing the flow of the blood in these parts; however, it will be remembered that some observers claim that the brain becomes anemic under anesthesia. Thus it will be seen that there is a vast difference of opinion upon this point, but most likely such observations are due to the fact that the findings were made at different periods of the anesthesia. As a matter of fact, in the early stages of the anesthetic the vessels become dilated, but as narcosis continues the vessels become contracted and the brain is anemic.

Kemp has shown that marked contractions of the renal vessels of the dog takes place under ether anesthesia, thus lessening the secretion of urine. In many instances this fluid may become entirely arrested or albumen may appear in the urine, also hematuria may manifest itself in some cases. So far as is known no true explanation has been made for this phenomenon. Just whether such condition exists in man or not has not fully been cleared up; however, albumen has been found in the urine in man after ether anesthesia. Chloroform apparently does not produce such conditions.—*American Dental Journal*.

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## SOMNOFORM IN DENTAL SURGERY.

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BY E. C. MAGUIRE, M.D.,

Anesthetist to the Brighton, Hove, and Preston Dental Hospital.

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Read before the Southern Counties Branch, at Brighton, January 20th, 1906.

Somnoform, which is the invention of Dr. Rolland, of Bordeaux, was first introduced into England by Drs. Rolland and Robinson, at the Annual Meeting of the British Dental Association at Shrewsbury, in 1902. They also demonstrated its use at the Annual Meeting held in Brighton in 1903.

It is a colorless liquid, with a somewhat unpleasant odor. Its composition is said to be chloride of ethyl 60 per cent., chloride of methyl 35 per cent., and bromide of ethyl 5 per cent. It is simply a mixture of several anesthetics, the properties of which have been more or less known for some time. Two of them, chloride of ethyl and bromide of ethyl, have been used as anesthetics with more or less success in dental operations.

In combining these anesthetics the aim of the inventor was to produce an anesthetic which would be rapid in its action, would be quickly eliminated, and at the same time safe. The methyl chloride, which is rapidly diffusible, is said to cause quickness of action, the ethyl chloride to prolong the anesthesia, and the ethyl bromide to have an analgesic action. Many consider the chloride of ethyl to



be the active constituent and doubt whether the addition of the chloride of methyl and bromide of ethyl is in any way advantageous. The odor is said to be due to the bromide of ethyl. It is a matter for consideration whether any advantage gained by the addition of the small percentage of bromide of ethyl is not more than counterbalanced by the unpleasant odor. I have not yet tried a combination of chloride of ethyl and chloride of methyl in the proportion in which they are contained in somnoform. I have used somnoform in over 3,800 cases for dental operations in hospital practice, as well as in many cases in private practice, both for dental and minor surgical operations.

Few patients, if they are warned beforehand, take any notice of its unpleasant odor. Many patients to whom I have given both somnoform and nitrous oxide say that they prefer somnoform, and those who have taken it rarely object to taking it again. I gave it to a friend of mine, a medical man, on five different occasions. He had had previous experience of chloroform, ether and nitrous oxide. After he had once had somnoform he always insisted on having it when he required an anesthetic.

*Mode of Administration.*—The great drawback to the successful administration of somnoform when it was first introduced was the want of a suitable inhaler. The inhaler at first used and recommended by the inventor was unsatisfactory, on account of the feeling of suffocation and struggling which frequently occurred. Since a mask with an india-rubber bag attached has been used the production of anesthesia is much more pleasant to the patient, there is no feeling of suffocation, and in the great majority of cases there is no struggling.

I have been using, since its introduction, the ideal inhaler (an invention of Mr. Vernon Knowles, of Reading), and find it very satisfactory. At first I used a piece of lint in the facepiece, on to which the somnoform was sprayed, but latterly I have discontinued the use of the lint altogether, and spray the somnoform directly into the bag through the air-valve. While administering in this way one should stand directly behind the patient, and should be sufficiently above the patient to be able to manipulate the inhaler easily. A mouth-prop should always be used. After it has been placed in position, the mask of the inhaler is applied to the patient's face with the air-valve open, and adjusted so that no air is admitted at the sides of the facepiece. The patient is told to breathe a little more deeply than usual, and after two or three inspirations the somnoform is sprayed through the air-valve into the bag, and the air-valve is closed. The patient goes on breathing in and out of the bag, and in thirty or forty seconds, sometimes sooner, it will be noticed that the breathing becomes deeper and slightly snoring. After two or three of these deep inspirations the patient is ready for the operation, and the mask can be removed. If somnoform is used from a glass capsule instead of a bottle, it can easily be broken in the air-valve.

A new inhaler (which is also the invention of Mr. Vernon Knowles) has recently been introduced, which has several advantages over the one I have been in the habit of using. Its chief

advantage is the addition of an extra valve, which is so arranged that one is enabled to give the anesthetic gradually, instead of allowing the patient to have the full vapor of the anesthetic at once—this is not at all pleasant, and has been a difficulty which one has to contend with. The air-way of the new inhaler is much wider, and there is an ingenious arrangement attached for the breaking of capsules, when these are used in preference to a bottle.

*Signs of Anesthesia.*—The loss of conjunctival reflex must not be taken as a guide, as it does not always disappear by the time the anesthesia is sufficiently deep, and in dental practice it is quite unnecessary to continue the administration until the conjunctival reflex has disappeared. Several tests have been recommended :

(1) The patient is told to keep the eyes open and to follow the movement of the finger moved in front of the eyes. When the eyes become fixed, or the eyelids close, the anesthesia is said to be sufficient. This is not always satisfactory, and is rather difficult in practice, as the administrator generally requires both his hands to keep the facepiece properly in position.

(2) When the muscles become flaccid, the arm is raised and it falls limply. This is taken as an indication of anesthesia. In some cases rigidity is present, and this must then be taken as a sign.

(3) The breathing becomes deeper and slightly snoring, but not stertorous. This I consider is the most reliable sign, and with a little practice one is soon able to tell by this test alone when the anesthesia is sufficient. In the majority of cases it will be found that if this sign be taken as an indication of anesthesia that the conjunctival reflex is still present.

The period required to produce anesthesia, if air is properly excluded, is on the average about thirty-five seconds. If the administration is continued until the conjunctival reflex is lost the tendency to headache and sickness afterwards is increased.

*Condition during Anesthesia.*—The face is either quite natural or slightly flushed. The breathing is quiet though somewhat quickened. The pulse is at first quickened, but soon returns to its normal rate. The pupils are either slightly dilated or of moderate size. There is frequently conjugate deviation of the eyes to one side. The conjunctival reflex is in the majority of cases still present. There is no cyanosis, no swelling of the tongue, and no jactitation. The patient has the appearance of being in a quiet sleep ; opisthotonos occasionally occurs, the body is arched forward and becomes rigid. In a few cases there is some movement of the hands and feet. Micturition during anesthesia may occur. It is very infrequent (about ten times in my cases). It is more apt to occur in children.

*Dose and Duration of Anesthesia.*— $2\frac{1}{2}$  cc. is sufficient for an ordinary case. With this dose an average duration of anesthesia of over sixty seconds is obtained. A smaller dose  $1\frac{1}{2}$  to 2 cc., is required for children, and a larger dose for a strong muscular subject. Alcoholics and great smokers also require, as a rule, a larger dose. The longest period of anesthesia I have obtained with a single dose was just over two minutes.

*Recovery.*—The recovery is nearly as rapid as from nitrous oxide anesthesia, and the patient is soon able to leave the operating chair. Occasionally patients are in a dazed condition for a minute or two after the anesthesia has passed off; they do not know where they are. A few are pugnacious. This dazed condition is more frequent in males than in females. It passes off quickly and leaves no bad after-effects.

*After-effects.*—In the great majority of cases there are no after-effects, and in a few minutes the patient feels quite as well as before. Sickness is certainly more frequent after nitrous oxide. I believe it is more frequent in hospital than in private practice. It is difficult in hospital practice to form a correct estimate of the percentage of cases in which sickness occurs, as one has to rely for details on the attendants. I should think it has occurred in about 10 per cent of my hospital cases. There are several factors to be considered relating to this:

(1) Patients frequently come to hospital unprepared in any way for an anesthetic.

(2) The too rapid removal from the operating chair to make room for the next case.

(3) At the Dental Hospital here we only have one recovery room, and we have noticed that if sickness occurs in one patient one or two others follow suit on the same morning. The patient just recovering from the anesthetic is taken into the recovery room where another patient is vomiting, with disastrous results.

(4) As the period of anesthesia is longer and recovery not quite so rapid, more blood is swallowed than during nitrous oxide anesthesia, though hemorrhage is certainly less. The patient should be made to lean forward as soon as possible after the operation is completed.

Headache is sometimes complained of. It is generally temporary and passes off quickly. In a few cases headache, which was said to be violent, came on some time after recovery, and was said to have continued all day. One occasionally hears of a patient having severe headache after nitrous oxide.

A feeling of faintness is sometimes complained of apart from the sickness. This soon passes off if the patient is allowed to lie down. This is more frequent in anemic patients and in those much weakened by long-continued illness. In no case has this faintness been sufficiently severe to give cause to any anxiety. Some patients complain of the taste of somnoform remaining for some time, occasionally a day or two, after administration.

*Age and Condition of Patient.*—Somnoform may be given at any age. I have not had an opportunity of giving it to a very young child; I have given it to children of five and six. Children take it remarkably well, and I consider it a better anesthetic for them than nitrous oxide. They require a smaller dose than adults, and anesthesia is generally produced in them more rapidly. They are apt to collapse in a heap in the chair when the muscles become flaccid, so that the administrator should be prepared to hold them in position, or they may be anesthetised in the recumbent posture.

The oldest patient to whom I have given somnoform was a lady over eighty (for the opening of a suppurating gland in the neck); to this patient I gave somnoform on two occasions. She took it well, and said it was not at all unpleasant.

I do not know of any condition of a patient which contraindicates the use of somnoform. I am of opinion that if a patient is in a fit condition to take any anesthetic, somnoform can be administered.

*Preparation of Patient.*—It is quite possible that the number of cases of sickness we get in hospital practice may be due to the fact that many patients are not prepared in any way for the anesthetic. Many of them have a good breakfast shortly before they come. If patients were told to take only a light breakfast some hours before, it would probably reduce considerably the percentage of cases in which sickness occurs. Anything tight round the neck should be loosened, and if the waistband and corsets are unusually tight they also should be unfastened. It is advisable, especially in the case of children, that the patient should pass water before the administration.

*Effects on Circulation and Respiration.*—At first the action on the heart is stimulating and the heart's action is quickened and increased in force. The pulse soon returns to its normal rate and remains so during anesthesia. If the anesthesia is pushed the heart's action becomes slower, but generally remains regular.

The respiration is at first quiet, it then becomes quickened, deeper and slightly snoring, and, if the anesthetic is continued, becomes stertorous. It is not necessary to continue the administration until stertor is produced, as soon as the breathing becomes deep and slightly snoring the facepiece should be removed.

*Different Effect in Females and Males.*—Females as a rule take somnoform better than males. A smaller dose is required, anesthesia is produced rapidly, and they recover more quickly. In males the dazed condition after anesthesia is more frequent. The more muscular the patient the larger the dose required. Very muscular subjects, as a rule, do not take it well.

An anesthetic should never be administered to a patient, more especially a female, except in the presence of a third person. Charges of indecent assault, which are usually made in quite good faith, are a rare occurrence, but the possibility of such a charge being made should never be lost sight of by the administrator, who is morally bound to protect himself by the presence of a third person. Dr. McCardie, in a paper on ethyl chloride, says he "once met with a charge of indecent assault from a female patient. Marshall mentions two such charges in about fifty cases."

Erotic dreams have been said to be frequent during somnoform anesthesia, but as far as I have been able to ascertain I have not found this to be the case. If patients dream, which is not such a frequent occurrence as during nitrous oxide anesthesia the dreams are generally of a pleasant nature, and are frequently connected with the occupation of the patient. A mother dreams she is nursing her child. An engine driver that he is driving his engine,

and a police constable that he is on his beat, or taking some one into custody.

*Advantages over Nitrous Oxide.*—The production of anesthesia is more rapid, on an average about thirty-five seconds. Dr. Hewitt finds that the average time occupied in producing full anesthesia with nitrous oxide in a fairly robust, fully developed adult is 55.9 seconds, and the Committee of the Odontological Society put it at seventy-three seconds. The duration of anesthesia is longer. The average duration of anesthesia is about sixty seconds. Dr. Hewitt finds the usual available anesthesia with nitrous oxide to be 30.3 seconds, while the Odontological Society find it to average 24.7 seconds. When a friend of the patient wishes to be present there is no cyanosis and consequent discoloration, which is so alarming to persons unaccustomed to the use of nitrous oxide. The advantages to the operator in addition to the above are considerable. There is no swelling of the tongue, stertorous breathing, or jactitation. There is less hemorrhage, so that the view of the operator is not so readily impeded.

A great many of the unsatisfactory results obtained in the use of somnoform have been due to the fact that the abolition of the conjunctival reflex has been taken as the sign of the anesthetic condition. I consider it an altogether unreliable sign, and though it can be obtained in every patient by pushing the anesthetic, it is unnecessary to produce such a deep anesthesia for dental work. It is a curious fact in somnoform anesthesia that if the anesthetic be pushed until the conjunctival reflex is lost, the period of anesthesia is not correspondingly increased.

In a series of ten test cases recorded by Dr. Hewitt, in his paper in the *Lancet* of November, 1904 (where I believe the loss of the conjunctival reflex was taken as the indication of anesthesia), the average time taken to produce anesthesia was 87.8 seconds and the average duration of anesthesia was 49.6 seconds. In these cases 5 cc. of somnoform were added to 3,000 cc. of air, and the patient was made to breathe to and fro into the bag of the inhaler, air being rigidly excluded. Most of the patients had either sickness or headache afterwards.

Much has been said of the danger to the patient in using somnoform.

Dr. Hewitt in the same paper says: "This so-called somnoform does not produce such good results as pure ethyl chloride, and is distinctly more dangerous." In writing of ethyl chloride he says: "When mixed with ethyl bromide as in somnoform an additional risk of no small proportions was incurred. Two fatal cases have to my knowledge taken place in connection with somnoform."

Many more fatal cases have been recorded as due to ethyl chloride. In a list of seventeen fatal cases collected by Dr. Luke and quoted in the *Dental Journal* for November, 1905, fourteen of the deaths were due to ethyl chloride and only three to somnoform.

McCardie in a paper read before the Society of Anesthetists, said: "I see no advantage in this mixture, but rather believe it to be less safe than ethyl chloride, first because it contains ethyl bromide, and secondly, because the last few doses in the bottle unless

used soon after the first, are liable to decompose and to produce serious effects during or after inhalation."

I cannot see how the small percentage of ethyl bromide can render somnoform any more dangerous than ethyl chloride. Pure ethyl bromide has been used as an anesthetic by many, and the number of deaths from it, as far as can be ascertained, is under one in 5,000. The number of deaths from ethyl chloride is given by McCardie as probably about one in 10,000. The number of deaths from somnoform in this country, as far as I have been able to ascertain, is four in probably about 500,000 cases, which is one in 125,000. His second objection can be altogether avoided by using somnoform in capsules.

As far as my experience with ethyl chloride in dental surgery goes, and it has not been great, I consider that somnoform is decidedly the preferable anesthetic. The production of anesthesia with ethyl chloride takes longer. A larger dose of ethyl chloride is required, the recovery of the patient is not so rapid, and sickness and headache are more frequent afterwards. From what can be ascertained, if the statistics of the two are compared, somnoform will be found to be much the safer. Somnoform is a very useful anesthetic as a preliminary to ether. I have found it of great service in the case of young children and in very nervous patients, on account of the rapid production of anesthesia. I have had no experience of somnoform in prolonged anesthesia. As its effect is produced so quickly and recovery takes place so rapidly, I do not consider it a suitable anesthetic for anesthesia of more than a few minutes' duration. I think that with somnoform it would be difficult to maintain a uniform degree of anesthesia for any length of time.

After a fairly extensive experience of somnoform, I am of opinion that nitrous oxide should still be used as the routine anesthetic in dental surgery. The indications of nitrous oxide anesthesia are so apparent that there is little chance of giving an overdose. Cyanosis of the patient and stertorous breathing may both be present as indications of anesthesia, without the patient being in a dangerous condition.

When many teeth have to be extracted or a mouth has to be cleared, I consider somnoform a very satisfactory anesthetic. It ought not, however, to be given indiscriminately. Though it may be a safe anesthetic in the hands of one accustomed to its use, it may be more or less dangerous when administered by one who is not familiar with the signs of anesthesia produced by it.

In the case of young children, in patients who are known to take gas badly, in alcoholics, and in very nervous patients, somnoform when properly administered is a very useful and comparatively safe anesthetic.

#### DISCUSSION.

In the course of the discussion which followed, the Chairman said that personally he had only used somnoform a few times and in every case severe sickness had followed and he had been very glad to fall back upon the good old nitrous oxide.

Mr. Richards observed that while Dr. Maguire had contrasted the advantages and disadvantages of somnoform and ethyl chloride, he had not said what his experience of the latter had been. He (the speaker) would like to know because he had been under the impression that, as regarded risk, the opinion of the majority of anesthetists was in favor of ethyl chloride. Dr. Maguire had said that the number of fatalities with somnoform was four in 500,000. He (the speaker) had the idea that it was greater, and he had heard that in the case of several fatalities attributed to ethyl chloride somnoform had really been administered. In a number of cases he had had in private practice he had not one case of sickness where ethyl chloride had been used, but with somnoform he had had one that was rather disagreeable.

Mr. Caush said his experience had been exactly opposite to that of Mr. Richards. He had not had an ethyl chloride case in his house in which there had not been sickness following, but up to the present time he had had no case of sickness with somnoform. They had to take into consideration the personal factor of the administrator, and as he had had no case in which the same individual had administered the two anesthetics he thought the facts he had mentioned were very much discounted. He very much preferred somnoform with children, and better results were always obtained with alcoholics than where gas was used.

Mr. Gill asked if Dr. Maguire had taken any special note of the effects of somnoform in the case of anemics. Also, had he taken any notes of the percentage of cases that he had had of patients who had taken gas and subsequently taken somnoform under his own administration; also, whether he had given equal attention to the administration of nitrous oxide or nitrous oxide and oxygen as he had to somnoform?

Mr. King asked for information as to Dr. Maguire's method of administering nitrous oxide, observing that it was necessary in comparing its effects with those of somnoform to know the kind of apparatus used. Practically no somnoform or chloride of ethyl was used in his own private practice. With nitrous oxide administered through the nose he could do more than he could with ether. The same man had administered nitrous oxide and somnoform for him. He had devoted a good deal of time and attention to both, and was likely to be proficient with both, and he found that nitrous oxide was both safer and better. Mr. King also expressed the opinion that inexperienced anesthetists gave far too much chloride of ethyl, with the result that sickness followed. After a little experience they produced just as long anesthesia with about half the quantity.

Mr. Scott-Foster agreed with other speakers that nearly everything depended on the administrator. One man in Portsmouth gave ethyl chloride in a splendid way and never had a single case of sickness. He was sure the gentlemen present could remember cases in which gas had been administered by different practitioners in a very varied way.

Mr. Knowles bore out Mr. Maguire's statement that in dispensary practice sickness occurred in about 10 per cent. of the cases, and in private practice in about 5 per cent. The percentage was

much less because in private practice the patient was generally recommended to allow two or three hours to elapse after the last meal, while in a public hospital there was not that opportunity,

Replying to various points raised, Dr. Maguire said that, with regard to ethyl chloride, he must confess that his experience of its administration in dental work had not been very great. He had administered it in about thirty cases and found that the percentage of sickness was greater than in a corresponding number of somnoform cases. He was not so satisfied with the anesthesia produced as with that produced by somnoform. It was not produced so rapidly, and patients took longer to recover, and were not nearly so fresh afterwards. So far as the number of fatalities was concerned, it was very difficult to obtain proper statistics because there might be a considerable number of fatalities that never came to light. Men fought shy of letting the public know that people had died from the effects of a particular anesthetic. He had only been able to ascertain four deaths from somnoform in this country, but if any of the members knew of any deaths having occurred he should be very glad if they would let him know. As regards the effects of somnoform in anemics, he found that they took it very much better than gas. They required a smaller dose as a rule, and it had no serious effect upon them afterwards. Some anemic patients complained of a feeling of faintness afterwards; but if allowed to lie down it passed off quickly. He was afraid he had not got the percentage of cases of patients to whom he had given both gas and somnoform, but they might take it that the patients took somnoform quite as well as they had taken gas, and a great many of them preferred it. With regard to the administration of oxygen and nitrous oxide, one great drawback was the cumbersome apparatus required. It was a very safe anesthetic, but no greater advantage was obtained than in giving air with nitrous oxide. He usually administered nitrous oxide from ordinary bottles with the foot-piece. He generally used two twenty-fives. After the patient had expired for some time through the valve he shut off the valve entirely and made the patient breathe in and out of the bag for the last few respirations. Anesthesia produced in that was much more satisfactory than if the patient was allowed to go on expiring through the valve. With regard to the usual apparatus, he had had experience, with the Patterson apparatus and found it on the whole satisfactory, but it was not always found easy to get the patient to breathe through the nose properly. It was also difficult sometimes to go on administering the anesthetic through the nose without in some way impeding the operator in his work. He agreed that the personal factor was a very important one.

Continuing the discussion, Mr. Dennant urged the younger members of the profession to have a little more moral courage with regard to the question of the administration of anesthetics and the medical man, and not to be afraid of suggesting that the latter should allow a specialist to act for him.

Mr. Foran and the Chairman pointed out that in many cases it was impossible to avoid employing the medical man who sent the patient.—*British Dental Journal*.



## Proceedings of Dental Societies

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## ONTARIO DENTAL SOCIETY MEETING

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The annual meeting of the Ontario Dental Society was held in Toronto, March 12, 13 and 14. There were almost three hundred in attendance. The papers in one or two cases were not quite up to our standard, but the discussions fully made up for any deficiency. There was a time in the history of the Society when discussion was not full enough nor up to the mark. Not so to-day. The President has to use a good deal of tact to get a subject passed so that other papers may not be crowded out. It is unfortunate to be compelled to limit a discussion when perhaps the most valuable suggestions come out in that way. It is also unfortunate to ask a member to prepare a paper and then not give him an opportunity to read it. But in future some provision will have to be made to have papers ready for presentation if needed, and if not they may be read by title and printed in the proceedings. The profession of Ontario is fully awakened to the value of society

meetings. Clinics are always an important feature, but very hard to secure. Our members are all so modest that they must be persuaded to clinic. They can hardly realize that a clinic, to be of the greatest value, must be simple, easy of explanation, understood in a moment, and fill a need or overcome a difficulty. Many of the members come to the meeting and show devices and methods of practice which are very valuable, and yet would not permit their names to go on the programme for a clinic. Meetings can only be of the greatest value when each member feels in some measure responsible for their success. The Programme Committee for next year expects the members to supply the clinics and the papers without being asked or pressed into a consent to do so. It has been said that members will not even answer letters from the Secretary when inquiries are made in reference to taking part in the meeting. One could hardly think that a member could be so discourteous or so lacking in the appreciation of the honor done him. However, we think that most men who fail to answer correspondence do not intend to be discourteous, but it does greatly increase the labors of the officers, which no member would do intentionally.

The visiting of offices was a good feature. One dentist said that over fifty members visited his office from 8.30 till 10 on one morning, and almost as many the next morning.

Every year the demand becomes greater to leave at least one evening free, so the members may visit friends or attend concerts or the theatre.

Few members who have not been connected with the work of preparing the programme and carrying on the meeting have any idea of the sacrifice of time necessary to make the meetings go. Again, there are few who realize how important the Ontario Society is as a unifying and educational Society. It is about time the Society did more than discuss the needs of the dentist. It should see to it that children and the public generally are taught proper methods of preventing decay of the teeth and diseases due to an unclean mouth.

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DR. H. R. ABBOTT, President of the Board of Directors of the R. C. D. S., desires us to state that, if a sufficient number of dentists wish to take a practitioner's course this May and will send their names to Dr. A. E. Webster, 3 College Street or to the Secretary of the Board, before their annual meeting, April 23rd, it is quite possible that a course can be arranged for.

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### FOR SALE.

Ritter Dental Engine, 110 volts, direct current, suspended type, first-class condition, \$70.00; also, Denison, same current, \$30.00. Nicholl & Grieve, 152 Bay Street, Toronto.

# Dominion Dental Journal

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## Original Communications

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### THE DENTIST'S MEDICINE CABINET.

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BY HAROLD CLARK.  
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Read before the Toronto Dental Society.

About twelve years ago I made a trip to Washington and Philadelphia, and while there had the privilege of visits with two of the honored patriarchs of our profession, Drs. W. W. Evans and J. Foster Flagg. The one happened to tell me with much enthusiasm that he was able to accomplish nearly everything he required of drugs with about three agents, and he dilated upon the wide possibilities of carbolic acid. The other was overflowing with a lecture he had just delivered to the students showing them that campho-phenique would do nearly everything a dentist required of drugs. It was all very interesting, and the splendid enthusiasm of these two men was inspiring, and no doubt accounted largely for their success and great usefulness in the profession. Yet, if carbolic acid or any other agent have ten therapeutic values and one of these values or uses is better or more satisfactorily obtained from some other agent, then we should use carbolic acid for only nine purposes and add another agent to our medicine cabinet. If a drug have only one use, but it does its work a little better than any other, it should have a place in our medicine cabinet. On the other hand, it is almost as important to avoid needless multiplicity of agents, using anyone of several for the same purpose. It must always engender carelessness, confusion and a want of intelligent selection. A dentist should be able to look at any drug in his cabinet and say that it has some specific use where no other agent would serve quite so well. I find that I have between fifty and sixty different agents and I cannot think of any of these that I could wisely dispense with. In addition to these I have many more that have been

recommended, tried and—in my hands—found wanting, but in my remarks I shall confine myself to those agents that have become essential to me.

First of all a word as to arrangement. It should be as important to have system in a dental equipment as for a house-keeper to have system in her kitchen. The most frequently used drugs should be most conveniently to hand. Each bottle should have a specified place and kept in it just as we do with our operating instruments. Right here, speaking of instruments, let me say by way of interjection that no agent whose fumes can rust steel should be kept within the four walls of the same cabinet that holds our instruments. As far as possible drugs should be contained in glass-stoppered bottles. The wide-necked variety is usually to be preferred, as we so frequently desire to dip in an instrument or syringe point. A stopper that may be inverted when removed from the bottle has an advantage of considerable importance. Every care should be taken to minimize the characteristic odor of the dental office. A large contributing cause is the spot that is left every time a stopper is laid down from a bottle containing an essential oil or other aromatic. A little care with properly formed stoppers will avoid much of this trouble. One should have a medicine shelf in his laboratory or some room other than his operating room. On this shelf should be kept large bottles that contain stock quantities of various drugs, such as alcohol, ether, chloroform, carbolic acid, etc., from which smaller quantities are transferred from time to time to the more convenient sized bottles of the operating room; also saturated solutions of such drugs as bicarbonate of soda, sodium dioxid, trichloroacetic acid, etc.; also discarded medicines, as new uses often arise for them.

In my cabinet, in one place and always in that place, I keep my restoratives, lavender salts, aromatic spirits of ammonia, liquor, strychnia and amyl nitrite capsules.

Various medicines are compounded or diluted to percentage solutions from time to time. If but a few drops are needed for the immediate operation I prepare it with a minim syringe on a glass slab. By counting the drops the combination or percentage solution is readily made. For larger quantities up to a drachm I use a mini graduate.

Materia medica, as a subject the world over, has the reputation of dreariness; and this paper would fail to be consistent with the traditions of the subject involved if it didn't give a list of drugs. I shall therefore inflict on you a list of the drugs with their specific uses, and here and there brief comments upon them. The uses of a number of drugs are so obvious that I shall simply enumerate them. Among them are aconite and iodine, cocaine, arsenic, adrenalin chlorid, hydrogen dioxid, vaselin. To give order to the enumeration of the remaining drugs I shall try to name them somewhat in the order of the frequency with which I use them.

Benzo-balsam cavity lining varnish—a valuable nonconductor and adhesive in practically all cavities and under all fillings; a

barrier to the irritant action of zinc chlorid ; for saturating bleached tooth tissue to retain its translucency.

Absolute alcohol—for drying cavities and pulp canals, cleaning instruments, mirrors, etc.

Chloroform—solvent of various resins and gum resins ; for removing gutta percha from canals.

Ether (commercial)—inexpensive solvent for cleansing purposes.

Oxysulphate of zinc—general purpose non-irritant temporary filling—with powdered thymol, a specific for hypersensitive dentine due to fermentative irritation—the solution of the sulphate is an ever ready and most efficient emetic should any accident call for such an agent.

Oxychlorid of zinc—a filling for pulp chambers—as an intermediate filling where consequent irritation is not an objection. Its specific value lies in its non-leaking and preservative virtues. The solution of the chlorid in a canal previous to filling forms albuminate of zinc ; an excellent preservative which accounts for the reputation enjoyed by oxychlorid of zinc as a canal filling.

Hydronaphthol—25% solution in alcohol. A stimulating, non-escherotic germicide for pyorrhœa, alveolaris and fistulous tracts. It is a germicide up to 1 in 1,200. It is soluble in water to the extent of 1 in 600. The alcoholic solution, 1 in 4, precipitates in the aqueous moisture of the pyorrhœa pocket or fistulous tract and maintains stimulation and asepsis until all the precipitated hydronaphthol is converted into aqueous solution.

Campho-phenique saturated with chloretone—general purpose anodyne for pulpitis, gingivitis, etc. ; dressing to maintain asepsis in the pulp chamber and canals ; much better than P. D. & Co.'s Dentalone. The former combines the anæsthetic virtues of the chloretone and the carbolic acid. ; contains nothing that is irritating, and does not discolor dentine. The latter contains oil of cinnamon, which both discolors and irritates.

Saturated solution of sodium dioxid.

Sulphuric acid, 50% solution.

Saturated solution of sodium bicarbonate. I group these three as I seldom use one without the other two. The sulphuric acid dissolves the calcium salts of the walls of the pulp chamber and canals. The bicarbonate neutralizes the acid and the active effervescence mechanically removes the debris. The sodium dioxid solution breaks down connective tissue exposing more calcium salts. It also saponifies all fatty elements that may be encountered.

Chlorid of ethyl—the most generally efficient and satisfactory solution of the sensitive dentine problem I know.

Nitrate of silver, 50% solution—to check spots of degeneration on enamel ; to overcome sensitiveness of dentine along gingival margins. A preservative of purely calcified dentine in the floors of cavities that approach the pulp of immature teeth ; for broad, shallow cavities in deciduous teeth, and for the cervical degeneration of teeth so common in the aged.

Oil of cloves with 1% formaldehyde.

Oil of cloves with 10% formaldehyde. The former, a general



purpose germicide ; very effective in fistulous tracts. The latter as a dressing for putrescent conditions within the tooth. Its specific virtue being in the large amount of the volatile and far-reaching formaldehyde gas.

Formaldehyde, aqueous solution.

Formaldehyde, alcoholic solution. The former, a general purpose sterilizing agent where its irritating characteristic need not be considered ; an excellent sterilizing agent for instruments. The latter for compounding with essential oils, creasote, carbolic acid, campho-phenique and similar fluids.

Oil of cajaput—solvent of gutta percha ; more solvent than eucalyptus, and seems to contain less of stearopten, and is consequently less gummy.

Carbolic acid—specific virtue lies in its anæsthetic property which masks the pain that would otherwise accompany its cauterant action.

Pyrozone, 25%—used in connection with sodium dioxid is perhaps the most satisfactory bleaching agent.

Ferripyrrin—excellent styptic after extraction.

Trichloroacetic acid—coagulant, styptic, powerful astringent, very slight irritation ; valuable in pyrrhœa pockets and the treatment of the painful conditions associated with an erupting lower wisdom tooth.

Creasote—seems to have a specific value in the treatment of stubborn fistulous tracts.

Beta eucain, 2% solution—for infiltration anæsthesia in place of cocain. In ten years' use I have seen no untoward effect from its use, though unpleasant experiences are on record.

Acetate of morphin—for use with arsenic.

Lactic acid—for treatment of pyrrhœa pockets.

Sodium carbonate, hot saturated solution—for treatment of arsenical poisoning of the gum tissues, on account of its solvent action on the arsenic.

Cobalt—combined with arsenic to make the paste black so that the application may be plainly seen in the cavity.

Powdered gum tragacanth—dusted on the surface of a new denture to fasten it in place till the wearer becomes accustomed to it.

Gum dragon's blood—for coloring laboratory varnishes.

Potassium cyanid (very poisonous)—to remove recent stains of nitrate of silver.

Collodion, with strands of cotton—to cover and protect small cuts on the fingers. Washing the hands does not remove this dressing.

Phenol-sodique—a 10% solution as a mouth rinse for an offensive mouth.

## THOUGHTS AT THE CHAIR.

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BY P. ST. C. SMITH, M.D.S., PORT ROWAN.

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Don't forget that the little attentions to your patient's comfort while in the chair is a good investment.

2. In preparing a cavity take a walk around to the left of the chair and view your work. It will perhaps look different from this aspect.

3. Use a stool for that long gold filling, and note how much fresher you feel at the finish. It is a great relief to the lower back, legs and feet. Begin to-day. 'Don't wait till you are an old man, and lose five years of your life as an operator.

4. Don't gossip at the chair. Do your work quickly, gently, silently and have your visit afterward. Nine out of ten wish to get through dental operations as soon as possible. One exception might be made, viz., in the case of children. Here it is often advisable to talk while working. It interests them, and takes their mind from the operation.

5. Do some mental arithmetic while plugging, and ask yourself if it would not be better to oil your plugger oftener than you do.

6. Remember that the patient while in the chair has nothing to do but watch the operator, his instruments, his outfit, etc.; so that it is imperative that one should have cleanliness in person and in method and in operating room. Often persons whom we least suspect are the keenest observers.

7. Instruct the patient that unless strict attention is paid to oral hygiene and prophylaxis our best efforts will only yield half the results.

## SEVENTEENTH ANNUAL CONVENTION OF THE ONTARIO DENTAL SOCIETY.

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DR. J. R. MITCHELL (Perth), President, read address.

DR. A. W. THORNTON, Chatham—As I listened to Dr. Mitchell's excellent paper I realized that I made a mistake. I should have had my wife here that I might impress upon her that I spend too much time in my office and that I should have a holiday. (Applause).

DR. BROWNLEE—I think our profession in Ontario will stand side by side with any. I was talking with a member of the faculty some time ago, and he gave this information, that two of the members of the board had visited the American colleges, and came back with these words: "We have them all beat." I think that we have a college and a profession that we need not be ashamed of, and it becomes us to do what we can to elevate the profession which is so dear to us. We have entered it not altogether from the financial aspect, but to carry it on in a dignified manner, and it is a profession which we ought to try and make honorable. I want to say a few words about the faculty. I think they have at heart the interests of the profession and I think they have been doing good work, and I must commend the work that is being done by the faculty. I think some things might be improved because as the profession advances there are improvements which must be made. I regret very much that we are missing the old faces. I believe I am the only one of the '79 class, and there are some members of that class that I have never seen yet here in the meetings of the Ontario Dental Society. I think it is a mistake for those who graduated many years ago, when the profession was not what it is now, not to take every possible opportunity of improving themselves on everything in connection with the profession, and I am thankful to this society for many points of progress that I myself have made, and I often say to my patients, had it not been for the associations of the Ontario Dental Society I would not be as skillful as I am in my work at the present time, and I think the men who do not attend the meetings of this Society are missing a very great treat. It is a re-union and gives us advantages we could hardly dream of had we not attended these meetings. (Applause).

DR. A. A. SMITH, Cornwall—Whatever criticism may be made of Dr. Mitchell's address he certainly cannot be accused of painting us in brighter colors than the general public are willing to view us in. However, looking back over the profession since I have been connected with it—twenty-five years—I must say that I cannot take the same pessimistic view that Dr. Mitchell appears to in the beginning of his address. I can see wonderful improvements in it. There was a time, twenty years ago, when a man was a law to himself ethically; now at least if a man is unethical in his profession he knows that he is unethical and everybody else knows that

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he is so. He is bound to take the view that he has cheapened himself in the eyes of the professional brethren if he becomes unethical himself, and he also knows that he cheapens himself to the view of the general public. The general public, you know, now-a-days are well enough acquainted with professional matters and are of sufficiently intelligent character to know that when a man places himself outside of the pale of the profession there is something wrong with him, rather than with the profession. But I have hoped that we will yet secure the position we are aiming for. I think we are growing into it gradually, and I think that one thing that would help us a great deal would be that we cease to belittle ourselves; that we aim high and claim high, and that we try to make good our assertions. It has been the custom to belittle ourselves, and perhaps this is a good thing, because I think we should take fairly honest views of our discrepancies, but they will not be found to be so large after all.

DR. WILLMOTT, Toronto—It just occurred to me when Dr. Smith was speaking that possibly the dentists throughout the country are not quite progressive enough and not self-assertive enough; that is, they do not take part in the community in which they live. It is not essential that they should be elected mayor of the town, but they might take an active part in the affairs of the town; if they were their professions would be better recognized. (Applause).

DR. BROWNLEE—I think Dr. Willmott doesn't know the conditions very well. I know of many dentists who are occupying prominent positions in the affairs of their communities. (Applause).

DR. MITCHELL (in reply)—I don't think I have anything further to add to the discussion. The remarks of Dr. Willmott are, I think, very appropriate. I think the great majority of dentists are rather backward in coming out and shouldering their share as citizens. Dr. Johnson has given his view that a dentist should not make himself too prominent in political affairs. I do not believe it at all. I believe a dentist should be one of the best posted men upon the needs of his municipality, and there is no reason why a dentist should not be the best cultured and best dressed and best mannered man in the community. If we take our stand first and stay there, then the other fellow has to come to us. The other fellows, if you sit on the fence, will come at you from both sides, and they will both try to pull you off; the result is that you are apt to get hurt. I have just one more remark to make, and all I ask of you is to accord each gentleman taking part the courtesy which is due him; that is, give him good attention, and if you give them as good attention as you have given me I am sure they will have nothing to complain.

## FIRST DAY—EVENING SESSION.

TORONTO, March 12th, 1906.

Convention resumed at 8.30 p.m.

DR. ROBERT GOOD, of Chicago, read a paper on "Treatment of Pyorrhea" as follows :

*Mr. President and Members of the Ontario Dental Society,—*

You have paid me the honor of inviting me to read a paper and give a clinic on the most important subject the dental profession has to deal with, "Pyorrhea," and if I am able to inspire some of you to take up the work, as Dr. Younger did me some years ago, the pleasure of appearing before you will be increased tenfold, your usefulness as dentists will become greater and your work will be a pleasure; for there is nothing we can do that will add to the comfort of our patients as much as curing bad cases of Pyorrhea.

There is just one thing I wish every dentist to know about pyorrhea—how to cure it; and that is why I came here, to tell and show you how it is done.

It would, perhaps, be impossible to say anything new about pyorrhea, for there have been volumes written on the subject, and mostly by men who know nothing whatever about the disease, for the authors usually state "Pyorrhea is incurable," a statement any layman could make, and not in the least complimentary to our system of dental education.

My theory is that the individual who says "Can't" is one who knows nothing about the subject of which he is speaking. He has either failed in his efforts or has never made an attempt, simply giving the advice of some one whom he has heard say "Can't."

What a well-developed conceit one must possess to judge the ability of the entire profession by his own inability! The only authority on any subject is one who says "It can be done," and does it. The opinion of such an one is of value.

Gentlemen, pyorrhea can be cured. This was demonstrated to me some ten years ago by Dr. Younger, and I have been trying ever since to develop the degree of skill possessed by the Doctor, which is so necessary for the successful treatment of this disease. Dr. Younger has been curing pyorrhea for over thirty years, and I have seen patients from his hands with no return of the disease after twenty-five years, one of those being a patient who had suffered continually with rheumatism and gout.

To me pyorrhea is a local disturbance, and I know of no disorder which will yield so quickly to treatment. I have seen many cases of pyorrhea cured and the treatment was always local. Another reason which leads me to consider it local is that the dissolution of the alveolar process ceases with the loss of the tooth.

The treatment is surgical. First pass a flexible steel blunt-pointed needle (made by Sharp & Smith, 92 Wabash Ave., Chicago) to the bottom of the pocket, flooding the same with local anesthetic (put up by Dr. Charles Oakman, Cleveland Building, Detroit, Mich.), then commence to remove the pyorrheal

deposits, confining yourself to one tooth until this is accomplished. After all deposits are removed, flood the pocket with C. P. lactic acid warmed. Now let the tooth alone, giving it absolute rest, and in two or three weeks your case will be well. If a tooth is loose it should be banded with thin platinum or ligated with No. 3 sewing silk to hold it firm. Instruct the patient to massage the gum night and morning with powdered sulphur.

The instruments used for this work are Younger's Pyorrhea instruments, made by Chas. Grafrath, 158 West 27th Street, New York, and by Lukens & Whittington, 624 Race Street, Philadelphia, Pa.

Many dentists give as an excuse for not doing this work, "The patients won't pay for it." This, I feel, is a mistake, for Dr. Younger came to Chicago practically a stranger, and in a very short time patients were flocking to him from all directions, willing and anxious to pay him twenty-five dollars per hour, or any fee he might name, if they could only get rid of their pyorrhea. He is now located in Paris, and his practice is so large that it is impossible for him to take care of all who come to him.

Pyorrhea is the cause of many discomforts human flesh is heir to. I have known many stomach disorders to disappear, extreme nervousness and other diseases to cease, after the patient had stopped taking into the system the filth that is constantly discharging from a bad case of pyorrhea.

If the dentist would recognize pyorrhea in its first stages and cure it, then there never would be any bad cases; the same rule applies to pyorrhea as to the thorn in the flesh, immediate removal saving future trouble. I believe ninety-five per cent. of our patients have pyorrhea, and we should train ourselves to recognize it.

Gentlemen, don't tell your patients pyorrhea can't be cured; tell them it can be, and if you don't care to do the operation, send them to some one who can.

I thank you.

Speaking of removing pyorrhea deposits Dr. McDonagh interjected:

I have here a molar (showing tooth inserted in the end of a rubber tube). I have covered the roots of this tooth. It was a simple case of pyorrhea and it could easily have been cured. I have placed a rubber tube over the roots and I will lend it to any gentleman who desires to find how easy it is to remove all the deposits of pyorrhea. With this, of course, you have not the lips or the tongue nor the blood to contend with, and I will be very glad to shake hands with the man who will remove all the deposits from that molar, covered with the rubber, having the advantage of having it out of the mouth. It is not a difficult case at all; the deposit is not of the black variety.

#### DISCUSSION.

DR. A. J. McDONAGH, Toronto—I must congratulate Dr. Good on his concise and instructive paper, and I hope his mission to Toronto will bear fruit.

It is true that we in Canada, or a great number of us, have been and are in the habit of saying that "pyorrhea" is incurable, but we have not just a definite idea of what we mean by pyorrhea. Whether the great mass of dentists on the other side of the line have or not I cannot say. However, judging from what Dr. Good has said, I would be under the impression that he considers a great many cases of pyorrhea which we would be inclined to call simple "gingivitis"—(a pathological condition easily rectified by any operator of average ability) whereas a genuine case of pyorrhea alveolaris, as we understand it, is a difficult condition and it requires a great deal of experience and skill to cope with it.

This brings up the question, "What do you mean by the expression, pyorrhea alveolaris?" Which form of the disease do you refer to? For you who have studied the disease know there are at least three forms, namely: First, those which have an opening at the gingival margin have pockets and have deposits on the roots; secondly, those which have deposits on the roots, but as far as you can find, have not and never had an opening at the gingival margin; and thirdly, those which have not and never had any serumal deposit on the root and from which there is very little if any pus exuding, and those latter cases are not at all rare, but some of them are very hard to eradicate, and I will venture to say that Dr. Good will have to depend on God for a great deal of assistance if he attempts to cause a cure of them in the manner he has described to us this day.

Dr. Good in his paper said remove all the pyorrhea deposits. No man could give us better advice under the circumstances, and very few could assign us a harder task. I have a molar here which was affected with pyorrhea so-called, and was extracted for reasons best known to the operator. I will cover it with a rubber tube and if any man wants to find out how easy it is to remove all the deposits in the mouth where the tongue, lips and blood are all in your way, I will lend him this sample. Yet by proper manipulation and the use of a solvent it can be accomplished in a reasonable time. Dr. Good uses warm lactic acid as a germicide and solvent, I presume. I have tried lactic acid, and it worked all right for me in simple cases. But when I have a pocket extending beyond the apex of the root, it is not strong enough for me.

I cannot too strongly endorse Dr. Good's statement that pyorrhea is a curable disease.

It is fourteen years since I first attempted a cure for pyorrhea. And I see quite frequently my two first cases standing in good condition yet.

I cannot endorse Dr. Good's local anesthetic because I do not know what it is made of, and I do not use medicines which are not of my own prescription. As a local anesthetic, as you have heard me say before, I use a one in five hundred solution of nervocidin, applied, not injected.

"Do the soft tissues attach themselves to the roots again?" I am often asked by patients and dentists. Most certainly they do in all curable cases, perhaps not after the first treatment although

I always try to make the first treatment the last, but they do after the third treatment if you treat properly.

I am not in favor of silk ligatures to keep the affected teeth steady. Because I believe to be successful you must have as near as possible absolute rigidity, and silk ligatures, if neglected, are splendid agents to extract teeth.

In the course of his paper Dr. McDonagh interjected :

I believe Dr. Good said this afternoon lactic acid was used as an irritant.

DR. GOOD—As a stimulant.

DR. MCDONAGH—You do not use it as a solvent? Dr. Younger uses it as a solvent.

DR. GOOD—No, he thought at one time it did dissolve, but he positively states now that it does not.

DR. MCDONAGH—In a paper, appearing a short time ago over Dr. Younger's signature, it is said lactic acid dissolves the lime salts and exposes the endostium, and through that he has his healing process completed.

Referring to Dr. Good's statement: "I try to make the first treatment the last treatment."

DR. MCDONAGH—In some cases the soft tissues may not attach themselves after the first treatment, because foreign materials will get in between the gum and the tooth before the gum has had a chance to attach itself near the gingival margin.

Speaking about ligatures, Dr. McDonagh said: I had a case, about a year ago, where a doctor had tied four lower anterior teeth with silk ligatures; the patient came to me three or four weeks afterwards and the teeth had been extracted by the silk ligatures. If the alveolus had not been so far absorbed it would have been quite possible to replace those teeth.

DR. GOOD—I have done it; I have taken teeth out and put them back.

DR. MCDONAGH—Yes, I have done that too. (Laughter). That is not an unusual procedure in treating pyorrhea cases. With regard to the manner of holding teeth in place there are quite a few ingenious devices, but I use as simple a method as possible which will give me absolute rigidity. (Applause).

I thank you, gentlemen, for your kind attention.

DR. R. J. READE, Toronto.

*Mr. President and Members of the Ontario Dental Society,—*  
I am sure that we must express our sense of gratitude to Dr. Good for the sentiment which prompted him to come here—namely, to tell us how to cure pyorrhea. The paper would have been a little more lucid and instructive, perhaps, if the Doctor had explained to us what he meant by the term *Pyorrhea alveolaris*. For practical purposes the name itself is of little account—"a rose by any other name would smell as sweet"—and any word would be quite sufficient if the writer would define the term and use it throughout in the same sense. The essayist and anyone who has devoted a reasonable amount of time to the study of the subject, well knows that there has been much controversy in regard to a name for the condition. And why? Because those who have made a close



study of the disease cannot agree either as to its cause or as to the condition which is called Pyorrhea alveolaris. Some say that without pus pyorrhea cannot exist, while others contend that pyorrhoea is but one stage of a disease to which they give the name of interstitial gingivitis.

However, as the Doctor has not made clear his meaning of the term, it would rather be at cross purposes to point out some of the reasons why pyorrhea cannot be cured. In order to write a criticism of the position taken by Dr. Good, it would be necessary to tell you what I believe pyorrhea to be, and also the various causes of it. Then I might say that if so and so is the cause, then the disease is amenable to treatment; but if caused by such and such a condition, then from natural causes a cure is very unlikely, to say the least of it. But if I did this—that is, if I gave my own meaning to the term pyorrhea, then the Doctor would do quite right to tell me that I simply set up a man of straw to fight. So from this point of view the paper is lacking in that which should be the basis of the essay. The Doctor says he is going to tell us how to cure it, but as he has not told us what he means by pyorrhea, we are not in a position to understand definitely and intelligently what he cures.

The writer, further on in his paper, says: "Perhaps it would be impossible to say anything new regarding pyorrhea, because there have been volumes written on the subject by men who knew nothing whatever about the disease."

Now, one would naturally conclude that if the men who wrote volumes knew nothing about the disease of which they wrote, then a person who had a knowledge of the malady would find it possible to tell us very many new things.

Further on the essayist expresses much disgust for the individual who says "I can't." If a person cannot do a thing, it means that he is unable to do it. And if he can't do it, he lowers his moral character by saying he can do it. I am not quite clear as to whether or not Dr. Good has the same hatred of "can't" in regard to the other affairs of life. To illustrate let us consider scarlet fever. If one physician cures 80 per cent. of the cases which come under his care, he forthwith says he can cure scarlet fever. Another physician with the same amount of success would say that he could cure some cases, but that other cases were of such a nature, and the predisposition of the patient was of such a character, that the disease was beyond his control. He would, however, say that by his treatment he could do much good, and in taking together the good and the bad cases (especially with a preponderance of good cases) he would probably save about 80 per cent. of his patients.

In another section of his paper the essayist says, in referring to pyorrhea, "Another reason which leads me to consider it local is that the dissolution of the alveolar process ceases with the loss of the tooth." This statement is not in agreement with pyorrhoeal facts. Talbot says: "After the removal of the permanent teeth the alveolar process is entirely absorbed." Cryer, in his work on the "Internal Anatomy of the Face," says: "As the alveolar

process belongs to the teeth and is developed with them, and its function is that of holding them in position, it disappears to a greater or less extent after the teeth are lost." In Gray's Anatomy occurs this sentence: "For with the loss of the teeth the alveolar process is absorbed."

I am sure we are all glad to meet Dr. Good, and to have had the pleasure of listening to his paper. There is nothing like enthusiasm to insure success.

DR. McLAUGHLIN.—I would like to ask Dr. Good about the instruments he uses in cases of this kind. I inferred he would use Dr. Younger's instruments throughout. Did he find he was able to reach all parts of the socket or tooth root with that set of instruments alone? Then I think Dr. McDonagh led us in the direction of holding these loose teeth in a rigid position or in one position. He made a statement that he used the simplest appliance possible for that purpose, and then he left us there. Perhaps Dr. McDonagh would continue that, and tell us what that simple appliance consisted of.

THE PRESIDENT.—The subject is now open for general discussion.

DR. CLARK.—I have a couple of questions I would like to ask Dr. Good, and before the discussion is over I may want to ask one or two more. There are two classes of cases I should like to ask about. First of all, those teeth we sometimes see apparently perfect; the supporting structure seems to be in perfect health, and the gum tissues are perfectly sound. You try them with an instrument, and you cannot pass under the gingival margin more than the normal extent, and yet those teeth gradually work down and outward, and usually fall a prey to the forceps. I would like to ask if that class of case comes under Dr. Good's cure? Then the other condition is where I have tried to make a cure and failed, and on removing the tooth I find on the tip of the root—the last one that I have in mind was a first bicuspid, and on one other of the roots was a very fine sprig or hook. I think you could scratch the back of your hand and draw blood with that little sprig. Would Dr. Good extract it and take the sprig off and put it back again, or how would he deal with it?

DR. McDONAGH.—Mr. President, as I will probably not be asked any further questions, I will answer that question now. The ligature I used for holding the teeth in place was Dr. Angle's wire for regulating. Bring it through the tooth and back and interlace it between every two teeth, two plies of wire between every two teeth. You can put it there as easily as you can insert floss. When you have it laced in between the teeth and fixed, you can tighten it where you twist it to hold it, and if you have it in place along the teeth that are affected with a little looseness, you can take a pair of pliers and twist your wire just a shade and the teeth are all perfectly tight.

DR. McLAUGHLIN.—My experience with Dr. Angle's wire is that it stretches more or less.

DR. McDONAGH.—It won't stretch after you have had it in if you use large enough wire.

DR. McLAUGHLIN.—It does not stretch when I am putting it on ; it stretches afterwards.

DR. McDONAGH.—I think that is Dr. McLaughlin's fault. It is not when you put it on you find it stretch. You find once you twist Angle's wire it becomes tempered. I find in bringing teeth into place, once I have twisted it it is harder to twist a second time. How do you find it, Dr. Webster?

DR. WEBSTER.—That is right ; it is likely to break.

DR. McDONAGH.—The fault is you don't put it in the proper place, and it works into a place where the teeth are smaller than where you put it first. It is your fault, not the fault of the wire.

DR. McLAUGHLIN.—I find it troubles me a good deal. I would like to have the opinion of other members whether you find that wire stretches or not. For instance, if you wish to use it for retaining appliances and you pass it around the anterior part, the part that extends around the anterior arch is the part I refer to. I have found in my experience that wire will become loose in two days' time. I will tighten it at the end of two days and in another two days it will become loose again. Is that my fault?

DR. CLARK.—I took from Dr. Good's paper the names of the instruments and the name of that hypodermic syringe. I might write them on the board. (Writes on blackboard, as follows: Dr. Younger's Pyorrhea Instruments, Lukens & Whittington, 624 Race Street, Philadelphia. The "Good" Hypodermic Needle, Sharpe & Smith, 92 Wabash Ave., Chicago.)

DR. McDONAGH.—You have a long stretch of wire?

DR. McLAUGHLIN.—That is what I mean.

DR. McDONAGH.—In pyorrhea you have very short steps of wire ; it goes through and back again.

DR. PRICE.—Are we not liable to confound deposits of tartar with deposits in pyorrhea cases? Do not deposits of tartar form under the gum? I would like to ask also if the roots of teeth that have been replanted, after being extracted and treated, would be any less liable to be lost because of absorption of the roots than teeth abstracted for acute abscess and replanted. I have often observed an irritation between the teeth that caused the separation of the teeth, and perhaps a protrusion. Is not that the irritation of pyorrhea, in causing the teeth to move?

DR. SPARKES.—Some years ago it was thought that in order to stimulate the tissues to action in case of treatment of pyorrhea it was necessary to curette the alveolus around the surrounding teeth. I would like to ask Dr. Good if he considers that necessary to the stimulation of the parts to reaction.

DR. WEBSTER.—I felt very pleased to think Dr. Good had taken up this subject, and was willing to come here to demonstrate to us and take the general discussion of the subject. I fail to find that part of it which was most interesting to me fully brought out in the paper or in the clinics. That is the description of the technique of the removal of deposits, that is, as to the rests of the fingers and how he knows whether there is a deposit or not a deposit. Of course he says by sensation. Can he not give us some help ; tell us what sensation we ought to get from the deposit on the root of the

tooth, and what force is best applied against a deposit to remove it. Such points are difficult, especially with a beginner.

DR. PEARSON—Having always considered pyorrhea, more or less, associated with middle life and old age, or entirely due to neglect and want of knowledge on the part of both patient and dentist ; and in consideration of the fact that the pericementum is a delicate membrane constantly subject to the stress of mastication and to injury from food particles, it seems somewhat strange that our essayist this evening should be so positive regarding his ability to cure the disease.

The doctor's paper has been inspiring in one way and disappointing in another. He has told us that he can cure pyorrhea alveolaris. But he has not told us what conditions of the gums and teeth he includes in his idea of pyorrhea. An alveolar abscess is a condition of pyorrhea, and we are all successful in its treatment, more or less.

I wish to ask the essayist if in his opinion there are any conditions associated with a recession of gum tissue and absorption of process which he does not consider under the term pyorrhea alveolaris? The conditions which I have found very difficult to manage are conditions similar to the ones Dr. Clark has asked about, where we have no particular deposit except probably a superficial deposit above the gum, but where there is a continual and progressive eating away apparently of the bony substance underneath the gum, and a continual shrinkage of the gum tissue. Now, there is no deposit to remove ; there is no surgical operation to be performed. Is this pyorrhea or is this a disease which is necessarily associated with a constitutional condition or a condition bordering on old age? There is no active excretion of pus there. Does Dr. Good eliminate such conditions as that from his treatment and place them in another category entirely?

DR. GOOD arose amid applause and said : Dr. McDonagh, I believe, and also Dr. Clark spoke about deposits on the roots of teeth without an opening. That is something I have never seen ; because I have never seen it is no sign it does not exist, but I have never seen it. If I should find a case like that (sketching on the blackboard) I would go in through the alveolar process opposite the deposit and remove it.

A VOICE.—Have you never seen it?

DR. GOOD.—No, except once, and that was when the tooth had an alveolar abscess and a fistula existed. I made an opening and removed the deposit. Understand, I do not claim they do not exist because I have never seen them. What I have never seen or never done does not demonstrate anything. The doctor misquoted me ; I did not say a man has no right to say "I can't." That is a privilege everybody has, to say that "I can't" (referring to one's self), but what I did say was that neither I, nor anyone else, has a right to say a thing cannot be done, simply because I have failed or you have failed. (Applause.) If I make a failure, it's my privilege to say so ; but I have no right to say you cannot do it. In regard to "pyorrhea," I always think everybody knows as much about pyorrhea as I do, and I did not think it was necessary to treat you as school children—(laughter)—and give you a long dissertation on pyorrhea, for anybody that is practising dentistry ought to know what pyorrhea is. (Applause.) I did not come here to take up your time telling you a lot of things that

would not be of any value to you. What I came here for was to try and show you how to cure pyorrhea. I did not come here for any other object. How to correct any disorder is the most important thing to know about it. When I referred to the authors' ignorance of their subject who have written volumes on pyorrhea, and all end up by saying it cannot be cured, I wish to say that the man that says "can't" possesses no knowledge of value regarding the subject of which he is writing about. He has made a failure, and consequently his advice is not worth following. That is what I mean. (Applause.) The question has been asked, what I consider pyorrhea. It is a breaking down of the alveolar process, a formation of pus around the root of the tooth and a recession of the gum. There are some cases one gentleman spoke of where it is almost impossible to find any deposit. I should go after that just the same as I would after one that had a quantity of deposit. I should use my instruments and lactic acid, and make a profound impression on the tissues, in a manner to change existing conditions. You can stop it; you can do it just as well as I can. Dr. Webster wanted to know about the technique. I always rest my fingers somewhere, either on the patient's chin or on some teeth or some place to prevent my hand slipping. The only way I know how to find those deposits is to develop the sense of touch, so that you can simply see them with the tips of your fingers. That is all, and you can do it if you will keep at it. Dr. Pearson wanted to know why he had success and why he had failures.

DR. PEARSON.—I wanted to know what conditions you considered pyorrhea. I suppose you eliminate that condition?

DR. GOOD.—I don't eliminate anything.

DR. PEARSON.—There is no pus there.

DR. GOOD.—Well, I would get right after it just the same as if there was a barrel of pus there, use the same method; there might be pus there too, it might be continually discharging. It may not be stored up, and you would not observe it unless you were very careful.

DR. PEARSON.—In such cases the teeth are exceedingly sensitive and the gums have that thin appearance—a thin and slippery-looking gum.

DR. GOOD.—Well, I should look under the gum there.

DR. PEARSON.—I always do look under the gum.

DR. GOOD.—I would take my instruments and work around the margins of the process and break off the margins, cut them away. Create a new margin there and put in the lactic acid just the same. If the teeth were extremely sensitive I should devitalize, because it is an irritation to the gum as long as the teeth are sensitive. Remove the pulp and you will be surprised to see how rapidly your case will get well. As to this being a disease confined to old people, one of the worst cases I have ever treated was in the mouth of a girl twelve years of age. Every tooth in her mouth was discharging pus; and one dentist told me he had seen pyorrhea on two deciduous teeth, so it has no respect for young heads or old heads. You are liable to find it anywhere. I think

I made a statement this afternoon that there were not five men in the audience who didn't have pyorrhea. When that little irritation commences at the margin of the gum, and the gum commences to thicken, that is the time every one of us should treat pyorrhea—(hear, hear)—right there and then, and then we won't have any of these bad cases we speak of, where it goes away to the apex of the root. That is just as much pyorrhea, to my mind, as the bad cases are, only it has not progressed so far. The only comparison I can make is that if you get a sliver in your finger to-day, and you take it out you will never notice it, but if you leave it there you will have a very sore finger. You want to get rid of pyorrhea as quickly as you can. Stop it right there.

DR. MILLS.—Would you follow your lactic acid with any neutralizer?

DR. GOOD.—No; catch the surplus on cotton or bibulous paper, and let the patient wash the mouth with sterilized water.

DR. MILLS.—How often do you repeat that?

DR. GOOD.—Just about once; when I get through with the tooth I apply the lactic acid.

DR. MILLS.—Would it do no harm to cut into the peridental membrane at the bottom of the socket?

DR. GOOD.—I do not think so. You must remove part of it when you remove the pyorrheal deposits. A pyorrheal deposit has to be removed as a spot of paint on a board. It won't come off as a calcareous deposit. Wherever you find these little spots or islands, it is necessary to go over the whole spot with an instrument.

DR. McLAUGHLIN.—What motion do you use?

DR. GOOD.—A pull motion always. With regard to silk ligatures I can tie silk ligatures that will remain on the teeth for two months; I have done it, and so could Dr. McLaughlin. He will have the same difficulty with his wire that the other gentleman spoke of with his silk, if he does not use care in tying it. You can tie a ligature so that it will lift all the teeth out of the sockets, or so it will force them back in. Dr. Younger performs miracles with silk ligatures. I have seen him move teeth in a most miraculous manner, but he is the only man in the world I know of that can do it in the way he does it. I can change the position of teeth, and do very often, with silk ligatures.

DR. BROWNLEE.—Do you assume the position that there is always a deposit—with reference to pyorrhea?

DR. GOOD.—No, I think there are cases like the Doctor spoke of where it seems impossible to find a deposit. Those are rare, I think.

DR. PRICE.—Do you treat all cases of irritation under the gum?

DR. GOOD.—Yes sir; get rid of your irritation, that is the beginning of pyorrhea. Get rid of it.

DR. PRICE.—In those cases where there is no deposit would lactic acid work alone?

DR. GOOD.—I think you get better results with the instrumentation.

DR. CLARK.—What about the tooth with the sprig on it?

DR. GOOD.—You are sure there was not any opening from the outside?

DR. CLARK.—There was an opening.

DR. GOOD.—You could remove that with instruments.

DR. CLARK.—Go right down and snip it off?

DR. GOOD.—Yes. I occasionally take out a tooth and put it back but very seldom do that—very seldom. That is a last resort. The treatment of pyorrhea is full of surprises. After as many cases as I have treated I am continually surprised with the results I get. Time does everything for you; if that is what the doctor meant.

DR. GRIEVE.—Supposing you have a tooth that is very largely denuded of the peridental membrane, do you have any absorption of the root the same as you would have suppose you can go around the whole apex of the root?

DR. GOOD.—That very often happens. Often I find a case where I can go up around the apex and come down in that way. (Indicating on drawing on blackboard). And the only attachment will be along here. (Indicating). That often happens.

DR. GRIEVE.—Would you not have absorption? That end of the root, then, is in practically the same condition as a planted tooth.

DR. GOOD.—No, because in a planted tooth you would have the membrane only. Whether that absorbs or not it is pretty hard to tell. After I have treated a tooth and it fails to tighten after a reasonable length of time, I am not afraid to say to my patient that tooth is absorbing at the end of the root. I have taken out three this spring that would not tighten and I was satisfied in my mind that was the cause. I removed the teeth and they were absorbing just as I had said. In two of those cases I removed the crown from the root that was absorbed and put the same crown on another healthy root and inserted them again. They are firm now. They may stay there for years, and they may not.

DR. SMITH.—I did not hear your paper but I heard the statement made positively that there was no doubt the gum would become attached to the tooth after deposits had been removed. We, however, see occasions where the recession of the gum has proceeded to such an extent there is barely an eighth of an inch of it from the apex of the root. Is there any hope for the re-establishment of that gum after it has taken hold. Will it add to itself, or do you have to leave that tooth remaining with the small portion of gum attached to it?

DR. GOOD.—You cannot depend much on the building up of the gum. You can have that gum attach to the tooth where it is, and you will be surprised how little attachment is necessary to hold them in position, how firm they will become. I have a

patient for whom I treated a central incisor on the lower set of teeth about seven years ago, and I had to ligature the tooth while I was working on it. I could have taken it out with my fingers. I don't suppose it is in the gum—I know not a quarter of an inch—but it has become absolutely firm. I kept ligatures on that tooth possibly six or eight months, but it gradually grew firm. That patient is seventy years old now.

DR. SPAULDING.—You could remove the deposits from the roots of the tooth. It takes a pretty sensitive touch to get down into people's pockets—(laughter)—pyorrhea pockets. Where my difficulty would be, would be to know whether I got those deposits all removed from the pockets. How do you know?

DR. GOOD.—It is right there (holding up fingers).

DR. SPAULDING.—But from the pyorrhea pockets?

DR. GOOD.—You can flood those out with anything. Lactic acid will do it. A very good practice is to use some antiseptic in warm water.

DR. SPAULDING.—You can wash the coloring matter off and leave the deposits in.

DR. GOOD.—If you get your deposits loose from the root you will get them out all right.

DR. TROTTER.—Will you describe the ligaturing with silk?

DR. GOOD.—(Shows ligaturing by tying string about fingers). I have a surgeon's knot there; I make a double knot around a tooth that is firm, and usually I make another single knot there. Then I go on; sometimes I put it through three times. All these things develop. Many times you find all four anterior teeth very loose above and below, so that a person can work them out with the tongue. The cuspids will be firm. You can go across from one cuspid to the other and then repeat that. You can go back three or four times if you wish. Those teeth will be as firm as you wish, and they will stay there for a month, provided the patient does not wear the ligature out with a brush.

A VOICE.—What prevents that slipping down on the teeth?

DR. GOOD.—By the way you tie it.

A VOICE.—Do you keep it dry?

DR. GOOD.—I don't care anything about moisture. Wax it.

A VOICE.—What silk do you use?

DR. GOOD.—Common sewing silk; Belding Brothers.

A VOICE.—Supposing the teeth are considered as separated?

DR. GOOD.—I should use a ligature to draw them together before I put on the staying ligature.

A VOICE.—What method do you use in tying, then?

DR. GOOD.—The same thing. If you had two or three teeth leaning forward and firm cuspids, I would make a tie from one cuspid to the other. I would not tie a loop but a cross and pull on that till I took up all the stretch there was in it, and then tie a double knot, and the thread will endeavor to take



up its length and pull the teeth into place. If I had a patient that was going out of the city, or going to Europe, or anywhere, and these teeth were very bad, and I thought for some reason they might be careless and break the ligatures, I should take an impression of the inside of the teeth in plaster, after I had them in place, had them just where I want them, and held with ligatures. Then I make a die and counter die, and strike a piece of metal that fits right on the lingual sides of the teeth. Then I drill two rows of holes and thread them with silk, and pull them up to the teeth. If one of these ligatures breaks, the patient can thread a needle and tie the tooth to that splint, and keep it there indefinitely.

A VOICE.—Would it not be better with wire?

DR. GOOD.—No, not in my hands, because I cannot do with wire what I can with thread. I get better results with thread.

A VOICE.—There is more spring in wire.

DR. GOOD.—Yes. We should all use the methods that work out the best in our own hands.

THE PRESIDENT.—May I ask Dr. Good how he keeps his instruments in condition?

DR. GOOD.—Always when operating I have my instruments standing in lysol.

A VOICE.—What per cent.?

DR. GOOD.—It is a very powerful antiseptic. Five per cent. If these instruments become dull always sharpen from the point. Use a stone across the instrument in that way (showing). Always take the stone and sharpen right toward the point; draw it towards the point.

A VOICE.—A flat or round stone.

DR. GOOD.—You may use any kind of stone if you use it that way, but if you go across the flat surface you will soon have a round edge to your instrument. If you draw it away it keeps that surface flat.

DR. SPARKES.—Dr. Good forgot to answer my question as to whether he considered it necessary to curette the edge of the alveolus to excite the tissues to reaction.

DR. GOOD.—No, I don't think that is necessary, but sometimes it might be a good thing to do. I think you will often find those edges rough and somewhat necrosed, but I can usually remove that with my instruments and with the lactic acid. The lactic acid will dissolve necrosed bone nicely, melt it right away. I have just thought of another thing; I have found occasion a couple of times recently to cut off the root of a molar, the lingual root one time, and another time it was buccal, because it was what I call an absolutely dead root, just like a piece of wood. I cut it right off, and the tooth is getting along all right. That is better than taking out the tooth, because you can take it out any time. Anybody can extract a tooth.

DR. ZIEGLER.—What instrument would you use for cutting that?

DR. GOOD.—One of the fissure burrs.

DR. LENNOX.—In using a sharp instrument like that would you use sufficient force to cut into cementum?

DR. GOOD.—I think sometimes probably the root is scratched, I would not be surprised if it were, where the deposit is on so hard and firm.

DR. LENNOX.—I understand an ounce of pressure is worth a pound of theory.

DR. GOOD.—Yes.

A VOICE.—What anesthetic do you use?

DR. GOOD.—Cocaine. You may come to my office in a body, or pairs, or anyway, and I will show you how to treat pyorrhea, and I will show you cases that have been treated five, six, seven, and eight years. I would rather do that any time than talk to you five minutes, because then I am showing you the goods; there is no argument about it. I always say, if anybody has any idea pyorrhea cannot be cured, all I ask of them to do is to come to my office and they can be their own judges. I hope you will all take up the treatment of pyorrhea, and keep at it. Don't get discouraged just because you don't get results the first time, but keep pegging away. I want to thank you all for your generous treatment to me.

DR. GOWAN.—Do you inject that lactic acid with the steel needle?

DR. GOOD.—Yes, the same way as I put in the anæsthetic. I keep half-a-dozen syringes in service all the while. Pass the needle to the bottom of the pocket, then withdraw it enough so that when the acid forces from the syringe you won't force it into the tissues, because if you do that you will hurt your patient very badly.

DR. CAPON.—Do you believe in wiping out the pocket with trichloracetic acid and a little formaldehyde?

DR. GOOD.—No objection to that; I use the lactic acid; I follow Dr. Younger's treatment as closely as I can. I think he knows more about pyorrhea than all the dental profession combined. He has gone through all the methods and systems; he has tried them all, and he has finally settled down to good instrumentation and lactic acid. He says he gets better results. He has tried all manners of ligaturing teeth, wires and everything you have ever heard of.

DR. CAPON.—What's the difference between his ligature and the one you gave?

DR. GOOD.—There isn't any difference in it, only he can do it better than I can.

DR. CAPON.—You give the double surgeon's knot?

DR. GOOD.—I suppose I can tie that knot as well as he can to hold teeth in position, but he will move teeth wherever he wants them, with a silk ligature.

DR. CAPON.—Do you think there is any virtue in using acid sulphuric aromatic with the silk? Does it prolong the life of the silk?

DR. GOOD.—I never tried it. Questions will be asked why the tooth falls away; for instance if there is a pocket along the lingual surface of the tooth, the tooth will stick out. There is every reason in the world for it doing that. The attachment is broken up here (indicating on blackboard), and these tissues on this side are being constantly irritated, and they are trying to get away from here, and they pull the tooth along. These instruments are all pull instruments.

DR. McLAUGHLIN.—Mr. Chairman, I am sure Dr. Good has gone to a good deal of pains to explain to us his method of treating pyorrhea. He has labored under disadvantages, but he has shown that even under somewhat severe criticism he can come up to the surface, and I am sure the outcome of the paper and the outcome of the discussion has been this, as far as I am concerned, and I think as far as most of us are concerned, that we understand the trouble better than we did at the beginning of the session, that we have more confidence in our ability to treat the disease than we had before, and that we owe the thanks of this association to Dr. Good for the pains he has taken to explain his treatment, and tell us of his successes and his failures. So I would move a vote of thanks to Dr. Good, and would ask the Chairman to convey to Dr. Good the thanks of this association for the pains he has taken to explain to us his method. (Applause.)

DR. McDONAGH.—Ladies and Gentlemen, it is with the greatest of pleasure that I rise to second the vote of thanks to Dr. Good. A man who is as busy as Dr. Good is, and who from the goodness of his heart comes all the way from Chicago to Toronto to give us all the help he can—and he has given us a great deal of help—deserves more than the thanks of this society. Therefore, I have great pleasure in seconding the vote of thanks. (Applause.)

THE PRESIDENT.—It is not necessary for me to present this vote to this audience. You have already shown your hearty approval and I have very much pleasure in presenting to you, Dr. Good, the hearty thanks of the Ontario Dental Association here assembled, for the benefit they have derived from your excellent paper and the discussion it has provoked here to-night. (Applause.)

DR. GOOD.—I want to thank you for all these lovely expressions you have given me, and if I can hear from one member here that I have inspired him to take up the work of treating

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pyorrhea, I think my trip over here will have been well paid. (Applause.) This invitation is open to everybody here, or everybody in the profession as far as that is concerned; any time they come to my office it is open always, and I will show you all I can; and I can show you a great deal more there than I can here.

Convention adjourned at 10 p.m.

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### **Clinics at the Ontario Dental Society, March 12, 13, 14, 1906.**

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#### **CROWNING A ROOT DECAYED BELOW THE GUM MARGIN.**

BY W. A. BROWNLEE, M.D.S., MOUNT FOREST, ONT.

It was my purpose to show my method of crowning a root, so much decayed below the gum margin as to render it impossible to restore it with a porcelain crown.

When the root has been treated and tested for a sufficient length of time to assure the operator that it would be safe to complete the work, close the apical foramina with very short gutta percha points. Now, with a drill, the sides of which are parallel, enlarge and straighten the canal, making it about the size of No. 7 in Martin's screw plate, and with a small steel tap of that size cut a thread in the prepared canal.

For posts I prefer platinum, as it is tough and easily manipulated. Select a piece the required size and pass it through the screw plate, cutting a thread over the entire length. Now dip the end in chloro-percha and screw it tightly into the canal already prepared, and cut it off an eighth of an inch below the margin of the gum, proceed with each canal in the same manner. After the posts are all in place fill the canal around their base with cement. Make a German silver band the size of the root, place it in position over the posts and retain it there by packing around it with cotton saturated with Mill's cavity varnish.

With slow setting amalgam pack the root around the screw posts and fill the band also. Be careful to leave sufficient space between the amalgam and the occlusal surfaces of the opposing teeth to allow for reinforced cusps on the shell crown. Dismiss the patient, and at a future setting cut off the German silver band and fit on a gold shell to suit the case. The advantage I claim for this method is that the anchorage is not dependent on the

weak part of the root, but is deep down in the canal, therefore fracture of the root is next to impossible. If the operator desires to use a porcelain facing allowance can be made for that in preparing the German silver band and building up the stub.

## RESTORING BROKEN CROWN FACINGS.

BY W. G. L. SPAULDING, D.D.S.

In doing this by any method, three points are exceedingly important:

(a) To fit the facing to the backing so as to avoid crevices and projecting edges.

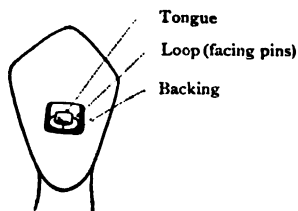
(b) To avoid weakening of gold backing or of the dowel.

(c) To secure facing so that it will not loosen.

*Procedure.*—Grind or clip the pins of the late facing flush with backing. With a lubricated drill make holes through the backing to suit the pins of new facing. This preparation guides



the facing true to place, which will be of service during the grinding to fit backing. Use thin carbon paper for fine adjustment of facing. Bend ends of pins to form loops and invest to unite them with gold or silver solder. While investment dries and heats, finish the preparation of the backing. Reference to illustration will make this simple. A U-shaped slot is cut with small



dental fissure-burr, starting in the pin-holes already made and thus making a tongue around which the loop of facing will fit. A pear-shaped or round burr, not too sharp, will cut away enough of the tongue from palatal side to allow the loop to go to place. Lubricate the burr with vaseline or glycerine.

Having soldered the pins of facing it will be cool enough now to try in place for fine adjustment. Cement facing to place, holding a piece of unvulcanized rubber against the palatal aperture to prevent the cement forcing through. A small ball of soft amalgam at hand quickly closes the aperture in backing and keeps the loop immovable.

Advantages of the Method.—Security of facing, accurate adjustment, and an unweakened dowel in the crown.

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### ROWITZER'S ARTIFICIAL ENAMEL "ASTRAL."

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BY H. S. KINSMAN, SARNIA.

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The chief points noted in clinic were the importance of having the glass slab on which it is mixed very cold. I used a small thin glass and set it on four thicknesses of cottonoid sopped in ice water. This allows the incorporation of much more powder into liquid, and gives good time to pack before setting takes place. If used in this way there will be a slight expansion of the filling rather than a shrinkage. The filling inserted in clinic was in the mesial occlusal surface of an upper second bicuspid, and when finished matched so well in color and margins that it was difficult to detect where filling ended and enamel started.

Another feature mentioned is in the preparation of the cavity, there being no need to trim the edges, as jagged and irregular edges cause the better blending of the artificial and real enamel. The edges of course should be perpendicular so as to give edge strength to both filling and enamel.

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### ORTHODONTIA.

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BY DR. V. H. JACKSON, NEW YORK.

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Dr. V. H. Jackson, of New York, demonstrated his system of correcting irregularities of the teeth. He showed the method of constructing appliances, first describing how to prepare a model.

An accurate model is made and the teeth carved slightly at the neck, which causes the apparatus when made to fit closely,

insuring good anchorage. The different parts of the appliance, partial-clasps, spring-clasps, base-wire and springs were prepared and held in place on the model for soldering, by pins and mouldine. The partial clasps are usually made of 18-karat gold plate rolled to No. 36 U. S. standard wire gauge. (Silver-nickel, platinoid, or German silver plate of the same thickness can be used.) The spring-clasps, base-wire and springs are made either of gold, silver-nickel, platinoid or German silver spring wire. The several forms of base-wire were described and apparatus made including each form, as for expanding the whole arch, or for expanding different parts of the arch. Springs of different shapes were attached to the base-wire, both for pushing the teeth outward and moving them inward.

Models and apparatus were presented showing the ease with which the jaws are equalized by the Jackson appliances and rubber elastics. The method of soldering with chemically pure tin, using the soldering iron was described.

Models and appliances of numerous cases were presented, showing the conditions before and after regulating, and the extensive movement accomplished in from two to thirteen visits. Following are some of the principal advantages of the system: Simplicity and ease of construction of the appliances.

The anchorage is sufficiently firm for all practicable purposes. The appliances are removable by the patient, insuring cleanliness. Owing to the spring construction it is necessary to see the patient not oftener than once in seven days or a longer period, thus saving the time of both patient and operator.

The appliances are applicable for all forms of irregularity. The same appliance can be continued in use as a retainer in a majority of cases.

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## IMMEDIATE FILLINGS OF ROOT CANAL.

---

BY DR. WUNDER, TORONTO.

---

The case we shall describe was one of a pulp in a cuspid which had died under a capping. It had pained but had not troubled in the last ten days.

The amalgam filling was drilled through, exposing the putrescent pulp. The patient was then asked to suck on the tooth, thereby reducing the pressure in the root canal. The rubber dam was then adjusted and the contents of the canal thoroughly disorganized with a substance which would act chemically on them. Peroxide of sodium in the powdered form was used for this purpose. It was conveyed directly to the

tooth on a smooth broach moistened with peroxide of hydrogen, and gradually worked into the contents. This was left in the canals about three minutes until all micro-organisms and their products were destroyed and any albuminous matter liquefied.

The contents were then washed out with hydrogen peroxide until all bubbling ceased, showing that all the sodium peroxide and albuminous matter had been removed. The canal was then thoroughly dried with cotton on the broach and warm air.

Thymaform mixed to a creamy consistency was then worked into the canal with a smooth broach. The pulp chamber being filled, the whole was forced to place and the surplus moisture removed with a pledget of absorbent cotton. Neither of these cases gave the slightest pain the following day.

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### THE CRENSHAW INCISOR MATRIX, USING WATTS' GOLD AS A FILLING.

---

BY FRANK E. BENNETT, ST. THOMAS, ONT.

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For a long time I felt the need of a matrix for the better and quicker insertion of gold fillings or plastics in the incisors in approximal cavities, especially those extending from the labial to the lingual faces of the tooth. I experimented along this line, but not being very expert at inventing, Dr. Crenshaw got ahead of me by a big lead, and thus we have the matrix. This matrix

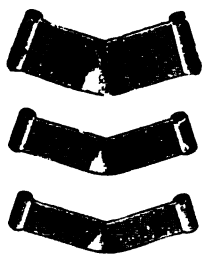


FIG. A

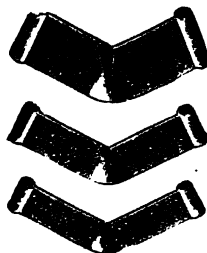


FIG. B

possesses the quality of adaptation and fixedness to the teeth and at the same time provides for contouring. It is resistant enough to withstand the pressure of condensing gold against it and yet is susceptible of being formed into whatever shape it is needed. The matrix bands are of German silver and are made of metal similar to that used in S. S. White's metal polishing strips. The bands are of three widths (Figs. A. and B), and crimped in two



angles which will usually adapt themselves to the usual bevel (Fig. C), or to the abrupt bevel (Fig. D) of the incisors. In cases of extremely large incisors or of unusual bevel, one can easily make the bands by using the S. S. White metal polishing strips. Cut a band of right length allowing enough material



FIG. C



FIG. D

for tube ends, then try on to the tooth, and with sharp edged pliers take up a crimp of necessary size and solder with German silver solder.

To adjust the matrix, select a ribbon the width of which is greater than the length of the cavity, and which corresponds with the character of the bevel of the tooth; place it so that the crimp on the ribbon comes toward the incisal edge as shown in Fig. 2, then insert the holder. Very little tension—obtained by turning in the screw—is necessary to tighten and hold the ribbon in place. The operator should not apply more pressure on the screw than is necessary to snugly tighten the ribbon, as unnecessary pressure causes the ribbon to slip and loosen on teeth of abrupt bevel.



FIG. 1



FIG. 2

If the cavity extends through from the labial to the lingual face of the tooth, and removes a portion of lingual wall, as shown in Fig. 3, the ribbon passes around this and embraces the tooth so as to provide a floor for the cavity as seen by looking through it in Figs. 1 and 4.

Fig. 4 shows the application of the device to the lower incisors.

In teeth of very abrupt bevel, the tendency to slip off may be overcome by placing under the ribbon a grain of shellac or other adhesive and warming with hot air.

In addition to the contouring effect of the matrix, another very valuable feature is secured in being able to place the gold

exactly and definitely at the margins. With the matrix in position we have a mould, so to speak, which when filled is a reproduction of the broken-down lingual wall and limits the amount of material to that which is necessary, no more and no less.

The proper building of a lingual wall has always been a difficult and tiresome operation to me and I suppose to my patients.

Usually separation of the teeth is unnecessary, for by tightening the nut on the tension bar it will force the teeth apart and the tooth to be filled forward, so that a minimum amount of tooth structure will need to be cut from the labial face.

Regarding the filling I use Watts' crystal gold. Unlike other precipitated gold it is composed of crystals, which interlock, and therefore when handled and manipulated it does not crumble or waste. Because of its softness and extreme cohesiveness this gold can be perfectly adapted to the walls of a cavity in less time and with less exertion than gold in the form



FIG. 3

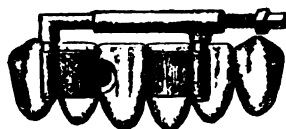


FIG. 4

of foil, and in the case of frail walls one can easily see the advantage, as it does not need malleting, but can be inserted with hand pressure. When properly inserted a filling made with this gold will be as hard and as tough as a gold filling can be made, and its surface takes a beautiful polish from the burnisher and disk. Through the kindness of A. J. Watts Company, New York, I am able to present for your inspection a microscopic slide, showing the construction of crystal gold, a way better than I can describe.

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### GUTTA-PERCHA FILLING.

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BY W. J. HILL, ALLISTON, ONT.

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1st. Method of heating, using thermoscopic heater to get correct degree of heat for proper working; also noting the effects of over-heating and how it spoils the material.

2nd. The class of cavities for which it is suitable is the buccal cavity in molars and approximal cavities in anterior teeth where cement is generally used, especially in the teeth of children and elderly persons.

3rd. Method of manipulation, using small pieces and build-

ing same as in a gold filling, the instruments being serrated and slightly warm. The aim being to get cavity full with as little excess as possible, and then finishing with a warm burnisher.

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### SYNOPSIS OF CLINIC.

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BY A. P. BURKHART, M.D.S., BUFFALO, N.Y.

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During the past twenty years I have ever been on the alert to take advantage of the various improvements produced by manufacturers of materials. The manufacturers of porcelain teeth have endeavored to produce high-grade porcelain facings for crown and bridge work, and greatly have they improved, but despite the improvements in shading, density of porcelain, and variety of moulds, the sad fact remains that pin facings attached to gold backings and then soldered will frequently check during the process of soldering. It is true absolute cleanliness in every step of the work, shellacing of facings before investing, careful heating up of the case, and attention to cooling, help to lessen checking, but will not entirely do away with it. This unfortunate condition has led to the manufacture of detachable or interchangeable porcelain facings that do not pass through the process of heating when the major portions of a crown or bridge is constructed. I have employed a number of makes of interchangeable facings in my work, and the one which appeals to me most is Steele's interchangeable facing. I say this with all due respect to other manufacturers of interchangeable facings. I commend and appreciate the efforts of every dental manufactory.

Covering a period of two years I have used the Steele facings extensively and with much satisfaction. With this facing is furnished a gold or platinum backing. On the back of the backing is a round, or barrel-shaped lug, in the facing a groove. When ready for final adjustment, the facing is cemented to the backing, the lug passing into the groove found in the facing. Should a facing become detached or fractured at any time, the repair is easily and quickly made. I quote from the manufacturer as follows:

No porcelain present when soldering, therefore no checking or discoloration of facings.

No unsightly gold tips.

Each facing can be ground to the gums after the bridge is made and in the mouth, thus insuring a perfect adaptation and sanitary condition.

Surpassingly artistic.

Repairs, if ever needed, quickly made without removing bridge from the mouth.

Saves one-third to one-half the time required in making bridges with other facings.

Makes it possible to insert a bridge immediately after extraction, and after absorption occurs to replace short facings with longer ones without removal of bridge.

Strongest by far.

Simple and easy to manipulate.

No special instruments or apparatus required.

The bridge can be instantly cooled after soldering.

Repairing a bridge made with Steele's interchangeable teeth does not mean a wobbly, riveted, unsanitary bungle, nor a removal of the bridge—simply a new facing replacing the broken one, attached in the same manner, and leaving the work absolutely as good as when new.

Full and complete instructions are given by the manufacturers of the Steele facing.

The manufacturers of this facing have produced an improvement over all others in the market in shading, life-like appearance, width of tooth from incisive edge, to the edge where it rests in the ridge of gum in the mouth. The fault of manufacturers of plain teeth for rubber work, or even facings, is this; the tip of the tooth imbedded in the rubber or in the facing resting on the gum is altogether too narrow and out of proportion with the incisive edge, and it is for that reason unsightly, V-shaped spaces are found in rubber plates and bridges, but this fault has been overcome in the production of the Steele facing, it being as near as possible an imitation of the natural teeth. I feel fully convinced the most artistic production in crown and bridge work will result when the product is intelligently used.

In the demonstration I shall give to-morrow morning I am sure you will be interested, and I shall be pleased to give all the information at my command.

Before closing let me call your attention to another valuable aid in crown and bridge work. I refer to gutta-percha and gutta-percha cement employed in the setting of crowns and bridges. For many years I have used gutta-percha almost exclusively in setting single crowns, and for several years I have used Evans' gutta-percha cement in setting bridges.

With Evans' gutta-percha cement results can be obtained far in advance of the ordinary cements which are used by the profession. When gutta-percha cement is employed, a single crown, or even a bridge can be removed if necessary, easily and quickly without splitting or destroying a single cap. Observation of my own work and that of brother dentists impels me to

say: Bridges should be frequently examined, and in fact much dissatisfaction on the part of the patient can be avoided if a bridge were removed once each year and the abutments carefully examined, and this can be done where gutta-percha cement is employed. This may be a radical thought nevertheless, it is the result of close study and observation.

Bridges set in the ordinary cements frequently fail because of the disintegration of cements, decay follows, and loss of abutments which could be averted because of the easy removal of bridges set with gutta-percha cement. I believe another great point in favor of gutta-percha is its kindly effect on tooth structure.

In cementing a single crown, or a bridge, with gutta-percha, or for that matter when ordinary cement is used, the crown or bridge should always undergo a test. Place in the cap or caps a quantity of soft wax, and force it over the abutment, then remove and examine, and if any portion of the occlusal surface of the tooth be a pivotal point which cuts through the wax and exposes the gold, reduce that point until you obtain a level surface of the abutment. Unless this is done, it means soon the loosening of a crown or bridge, an occurrence unpleasant to dentist and patient. A crown when properly balanced should always have a distinct layer of cement between the occlusal surface of the abutment and the gold cap.

## Selections

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### TAKE CARE OF YOUR TEETH.—A SHORT GUIDE TO THE CARE OF THE MOUTH AND TEETH.

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BY DR. SCHAEFFER-STUCKERT, OF FRANKFORT-ON-MAIN.

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At the age of  $2\frac{1}{2}$  or 3 years a child has twenty teeth, the so-called milk teeth, ten in each jaw. At the age of 6 there appear behind the milk teeth, and before any of these fall out, the first large permanent grinders, two in each jaw. As these grinders have to last a lifetime, parents should often examine these teeth and have every small affected part attended to; they will thus save the child the serious consequences accruing from deep-seated decay, and avoid the loss of these teeth which are so essential for chewing. Only sound teeth are equal to that amount of adequate chewing which produces the necessary digestive activity of the stomach, and they are therefore in general of the greatest importance. "Well chewed is half digested," says the proverb. Moreover, teeth are essential for proper speech and contribute in no small degree to the maintenance of a beautiful expression of the face.

Milk teeth are as important to children as the permanent ones are to adults. It is therefore quite a mistake to think that the Milk Teeth may be allowed to decay unheeded, because they will fall out in any case. Care of the Milk Teeth has a threefold advantage:—

- (1) It ensures good health for the child by thorough chewing.
- (2) It saves it pain.
- (3) It avoids the possibility of the infection of permanent teeth as they come through.

Neglect of teeth in youth can never be made good in later life

From the second year onwards, and even earlier, children's teeth should be brushed twice a day. In order to remove all fragments of food, and the injurious secretions of the mouth from the vicinity of the teeth, and so to combat with the principal causes of decay, the teeth must be cleaned with a brush morning and evening, or at least in the evening before going to sleep; for it is especially during the night that caries are most active. Of course, after the teeth have been cleaned, no food of any sort should be partaken of.

The method of cleaning is of great importance, the teeth should be brushed perpendicularly, *i.e.*, up and down, and not only horizon-

tally, so that the bristles of the brush may get between them as much as possible ; moreover, the side of the tongue and the inequalities of the crowns of the teeth should not be neglected. If the gums are inflamed and bleed a little that is of no consequence, but too hard a brush should not be used. This treatment will soon strengthen the spongy and easily bleeding gums, and the bleeding will then entirely cease. It is desirable in such cases to rinse out the mouth after every meal. The tartar which forms round the teeth should not be removed with unsuitable instruments, such as a knife or a needle, as this might injure the enamel of the teeth. In order to remove the fragments of food from the interstices of the teeth which are difficult to reach with a brush—in addition to the useful wooden, metal, or quill toothpick, a waxed silk thread (so-called "Tooth-thread") may also advantageously be used. There should never be any fear of using the teeth, as exercise is beneficial to them, and the munching of hard stale bread is especially helpful in developing children's teeth and in keeping those of adults in good condition. Teeth, therefore—like their owners, should not be accustomed to idleness. Any violent exertion of the teeth should be avoided, however, such as cracking walnuts or hazelnuts, or biting hard sweetmeats or thread. Sugar is certainly a good nutrient, and it is the misuse of hard and sticky sweetmeats which should be avoided. The use of tobacco does not act injuriously on the teeth, but an excessive use of it is prejudicial to the gums. Medicines of an acid nature, such as tincture of iron, etc., are very detrimental to the teeth, and the mouth should be rinsed after taking them. Great care of the teeth is doubly necessary in illness.

We should not wait until our teeth begin to ache to apply to the dentist for professional treatment. As caries is often quite painless in its initial stage, one has very often no idea of the growing danger, but when, later on, the teeth begin to ache, the treatment is attended with more difficulty and pain. The slightest suspicious-looking shadow between two teeth, the smallest brown or black speck, may often be an indication of the commencement of caries, but it is not always possible to detect hidden cavities for oneself in time. One should not overlook the fact that the filling of a superficial decay is much less disagreeable and expensive than the treatment of a deep-seated caries which has already caused pain.

Unsound teeth are doubly dangerous (1) because they render it impossible to adequately masticate the food, thus bringing about imperfect digestion, as the stomach cannot deal with insufficiently prepared nourishment, and (2) because the germs of every kind

which are formed in the mouth by decayed teeth are incessantly swallowed and give rise to ailments of the digestive system. It is therefore advisable to have the teeth examined once or twice in the year in order to have any small cavity filled in good time ; in this way time and money are saved, and pain is avoided. Every tooth affected with caries, if not treated in time, will, sooner or later, fall a victim to certain destruction. Artificial teeth can never be a perfect substitute for natural ones, but are—from the standpoint of health and beauty—advisable.

The use of so-called mouth washes is of no great benefit to the teeth when the mouth is only rinsed round and no brush is employed. Precipitated chalk with a few drops of spirit of peppermint, or simply as much table salt as will go on the point of a knife, in half a tumbler of water, and a good brush are sufficient for daily use.

The foregoing suggestions are made by the Swiss Dentists' Society in order to direct the attention of the public to the great importance of the care of the mouth and teeth, and in some measure to contribute towards the improvement in the present deplorable condition of teeth in Switzerland.—Translated from the German of Dr. Schaeffer-Stuckert.—*British Dental Journal*.





JOHN ROBERT MITCHELL, D.D.S., L.D.S., PERTH, ONT.

President of the Ontario Dental Society, 1905-6.

Died April 23rd, 1906.

# Dominion Dental Journal

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**VOL. XVIII.**

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**No. 4.**

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## THE LATE DR. J. R. MITCHELL.

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As we go to press we learn of the death of Dr. J. R. Mitchell, Perth, the Honorary President of the Ontario Dental Society. Dr. Mitchell was examiner in Prosthetic Dentistry for the R. C. D. S., and had not quite completed the reading of the papers when he took ill of appendicitis. He died after four days' illness.

## DENTAL SERVICE.

---

*Dental Surgeon's Qualifications.*—When applying for a commission, a dental surgeon will attach to his application the following certificates:

- (a) Certificate—Provincial license as dental surgeon.
- (b) Certificate—At least three years' public practice of his profession.
- (c) Certificate—Age 24 to 45.
- (d) Certificate—Physical fitness.
- (e) Certificate—Morality and good conduct.
- (f) Certificate—Good standing in his profession from the Committee of his District Dental Association.

*Professional and Technical Equipment.*—No dental kit is at present authorized, each dental surgeon when employed will provide himself and bring into camp the special instruments, drugs and material necessary for his professional work, for which he will receive a lump sum of \$10 for the duration of a camp of instruction, and a special amount to be determined hereafter when ordered with an army in the field.

*No Costly Work to be Undertaken.*—No gold filling is authorized. No dental work involving expensive material, much extra time and labor is to be undertaken without the recommendation of the senior medical officer present, and the sanction of the officer commanding the brigade.

*Professional Attendance.*—Officers, N. C. O.'s and men actually embodied are alone entitled to dental services, after obtaining the written authority of the officer commanding the Field Hospital Company, or of a regimental medical officer. Every facility will be given by the C. O. to the dental surgeons to carry out their work. The dental surgeon will prepare a daily sick list of incapacitated individuals and keep a statistical record of all cases attended by him for the information of the principal medical officer by the officer commanding the Field Hospital Company.

*Uniform.*—That of the Canadian Army Medical Corps, with a white metal to be worn on the collar or lapel of all orders of dress, on the front of the helmet, forage or cap, and the left side of the field service cap or hat.

*Personal Annual Report.*—All dental surgeons within a district will personally report to the P. M. O. in field service uniform, at least once in the current year, as evidence to show that he is available for duty. Neglect of the order without cause might lead to cancellation of his commission.

*How to Apply for an Appointment.*—Obtain an application blank from the P. M. O. of the district in which the applicant resides, fill it out and return to him together with the certificate mentioned in the militia orders as above stated.

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THE annual meeting of the Eastern Ontario Dental Association will be held at Cornwall, June 7th and 8th, 1906.

## **Proceedings of Dental Societies**

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### **NATIONAL ASSOCIATION OF DENTAL FRATERNITY.**

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The annual meeting of the National Association of Dental Fraternity will be held in Atlanta, Ga., commencing at 2 p.m. Friday, September 14th, 1906. The Executive Committee will meet at 10 a.m. the same day.

H. B. TILESTON, *Chairman Ex. Com.*

R. M. SANGER, *Secretary Ex. Com.*

East Orange, N.J.

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### **INTERSTATE DENTAL FRATERNITY.**

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The annual meeting of the Interstate Dental Fraternity will be held at the New Kimball House, Atlanta, Ga., on Monday, September 17th, 1906. The meeting and banquet will be in charge of Dr. Frank Holland, the Vice-President for Georgia. Dr. Holland's well-established reputation as a host is a sufficient guarantee for a royal good time for all the Fraternity who can arrange to get there. Do not miss it.

R. M. SANGER, *National Secretary.*

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### **KENTUCKY STATE DENTAL ASSOCIATION.**

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The time and place for the next annual meeting of the Kentucky State Dental Association has been changed to Louisville, Ky., during "Home Coming Week," June 12th, 13th and 14th. Special railroad rates of one fare for round trip can be obtained. All former residents of Kentucky in the profession are especially invited and their presence solicited. A cordial invitation is extended to the profession.

W. M. RANDALL, *Secretary,*

Cor. Brook and Broadway, Louisville, Ky.

# Dominion Dental Journal

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VOL. XVIII.

TORONTO, MAY, 1906.

No. 5.

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## Original Communications

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### A PRACTICAL DENTAL LABORATORY.

—  
BY W. D. CUMMER, D.D.S.  
—

Read before the Toronto Dental Society.

In outlining plans and specifications for a dental laboratory in which a dentist in a large city with a cultured clientele would be able to handle with ease and system, the many and highly diversified operations which come under the head of laboratory practice, brings us immediately to a consideration of one of the most difficult problems which the progressive practitioner or ambitious graduate is brought to face.

One of the chief reasons for this is the most frequent necessity of allotting ample space for the reception and operating rooms, and their accessory rooms, such as rooms for toilet, for conducting the business side of the practice, etc.; for the reason that the dental surgeon naturally wishes to do all he can to make these rooms in which he meets his patients as attractive, spacious, and comfortable as possible; while the laboratory in most cases is left for further consideration—usually at the sacrifice of the needs of laboratory practice and the comfort and systematic arrangements for the laboratory operator.

On account of the many different requirements of practices of different men in different localities among different clienteles it would be quite out of the question within the compass of one paper to lay down any definite rules for arrangement; therefore, perhaps, a few general considerations of the chief requirements of modern laboratory practice and an outline of a laboratory as nearly ideal as possible under present conditions, would perhaps be most in order.

First of all, the laboratory should be designed in such a manner that confusion among the various operations, instruments and accessories required for these operations would be almost impossible except for the reason of gross carelessness. Each phase of laboratory practice, such as gold work, porcelain work, rubber work, etc., should be allotted a distinct space, should be equipped with a complete outfit of instruments and a complete stock of supplies necessary for the carrying on of the work, and should be as sharply divided from the other departments as it is possible to accomplish in the space at the disposal of the dentist. Each of these departments should be equipped with a separate cabinet having a number of drawers, compartments, etc, designed to receive the various instruments, supplies and appurtenances connected with the work of that department, and each of these compartments also designed to receive, as far as it is possible, each individual instrument or tool, and most scrupulous care should be exercised to see that everything is returned to its proper place immediately at the close of their period of use. As mentioned before, each department should have a complete outfit, even if it means, perhaps, the duplicating or triplicating of articles most commonly in use in the laboratory. Although this involves a slight extra expense in fitting out, it is soon paid for in the time saved in running around, possibly, from one bench to another looking for such as an only wax spatula on duty in the whole laboratory; whereas, if each bench were equipped with these common articles where needed, a great deal of time could be saved for the busy operator by having these things all together in one department.

A most useful affair in connection with those departments of laboratory practice in which the piece is finished, such as the rubber gold or porcelain department, is a small set of pigeon holes having compartments to correspond for each day of the week. By keeping the work on hand classified in these holes, which are labelled with the name of the days of the week, a dentist can see by taking a glance at this cabinet, just what is to be done and just what day it is expected to be finished. Also in connection with each department a small note-book for "wants," with a lead pencil attached thereto by means of a string, is of great service in preventing those most annoying and time-consuming delays occasioned by the dentist in suddenly finding himself out of a certain material which he wished to use at short notice. In connection with this plan of sub-dividing the dental laboratory into departments, if it is at all possible it is wise to have a separate room with a partition running to the ceiling for that branch of the practice in which anything of the nature of dust or material on the floor is likely to be incurred by accident, such as the handling of plaster, moulding in sand, polishing of dentures, etc. This arrangement is favored by

most laboratory workers, and certainly adds a great deal to the ease in maintaining cleanliness and system.

The laboratory should be placed in such a position, if possible, where the very best light can be obtained; where there is ample ventilation (both of which can be regulated by the operator without moving from the bench), and access from the outside of the office without the necessity of passing through the operating room or reception room. The floor should be laid with linoleum and should be waxed at intervals of about a week; a broom, handbrush and dustpan should be within easy reach, and, if possible, a chute should be provided leading to the garbage barrel, or, if this cannot be done, a good-sized receptacle should be provided within the laboratory.

Compressed air should be installed on account of its many uses, and should be directed to each of the departments with plenty of suitable outlets. The gas connections should be made under the benches so that an operator in lighting any one of the gas burners will not find it necessary to place himself within danger of burning the sleeve of his coat by reaching to turn on the gas tap of the back of any one of his cabinets. Especial care should be taken that each one of the connections is perfectly gas-tight, for nothing is so injurious to the health as a number of leaky gas connections in the laboratory. A main outlet flue should be installed so as to run within easy connecting distance of each or any of the laboratory departments in which dust or noxious gas is likely to be developed, and can be operated by either forced draft, compressed air draft, natural draft or any other means easily obtainable. A light line shaft, such as is sometimes used in tailor shops for running sewing machines, is also a very useful accessory to a laboratory, for by means of this one motor can be made to operate three or four different grinding or polishing heads in different departments; the laboratory dental engine (a feature which should, if possible, be always present in a laboratory), fans for maintaining a circulation of air in the summer, pump for compressing air if desired, and any number of other mechanical devices which are indicated in the practice of the dentist. The laboratory should be equipped with a system of electric sparkers for gas ignition; one for each burner, furnace, etc. And this also can be operated from one set of resistance and a main lead. In this connection a note might be made of the new mercury rectifier manufactured by the General Electric Co.; a simple apparatus by means of which the alternating current commonly found can be simply and easily transformed to the more useful direct current. This, of course, renders possible the use of apparatus in the laboratory, otherwise impossible with the alternating current. Another point in connection with these general considerations is the advisability of having shut-off cocks for the water and gas mains, a cut-out



switch for the whole of the electrical system, grouped together, if possible, at some convenient point near the exit of the office. And, if possible, connected to one lever or hand wheel by means of which everything can be disconnected and shut off in one operation when leaving the office. It is quite obvious that such an arrangement might save a busy dentist many times its initial cost in anxiety as to whether the water supply were shut off for the night, and in some cases, possibly, a heavy bill for damages, either by electrical complications, overflow of cuspidore, sink, etc., or escape of gas in his office during his absence. With these few general considerations we might now pass on toward separate consideration of the equipment of each of the departments ordinarily found in general practice: rubber work, gold work, porcelain work, swaging, plaster, sand, and polishing.

The rubber department of the laboratory should be equipped with a good cabinet designed for that class of work, a number of specimens of which are for sale at reasonable figures at the depots. It should be equipped with solid top of hardwood, and preferably an elevated portion well supported and covered with marble, galvanized iron, or some such substance upon which should rest the vulcanizer and water heater. A sink should be near at hand, equipped with an instantaneous hot water heater, which can be simply made by making a coil of annealed copper tubing one-eighth inch inside measurement, and about eleven feet long, coiled over a solid-flame Fletcher burner and fitted with a by-pass. With this simple apparatus boiling water can be obtained in five seconds. The vulcanizer and hot water heater should, if possible, be covered with hoods leading to the main flue; and the vulcanizer blow-off should be led by means of a copper or brass tube well up into the main flue. Or if that is not possible out of the window into the street.

The gas connections, as mentioned before, should be so that they can be operated from underneath the bench. And, as also mentioned before, should be fitted with a place for everything, and should always have everything in its place. A useful piece of apparatus for waxing up, consists of a small tray fitted about an inch and a half below the bunsen flame, in which the wax scraps are placed. Thus while the operator when making a denture is engaged in setting up the teeth the flame which he uses reduces the wax in the tray to a putty-like consistency, with which the work of modelling the lost tissue to be replaced by the denture can be carried on with the greatest facility by means of the fingers of the operator. A compressed air cock should be located on this bench, as it is exceedingly useful for blowing the water out of inaccessible places in impressions, the rapid drying of shellac on a model, the even distribution of the same in an impression, the rapid cooling of models, and other uses which from time to time occur. Another useful accessory is a small

electric heating disk wound so that it will reach a temperature of about two hundred degrees Fahrenheit, upon which raw rubber can be placed for warming during the act of packing flask. As mentioned before, the cabinet should be equipped with a sparker for each burner, and the other common accessories of the manufacture of rubber dentures, etc.

Passing on to the gold work department, this should, of course, be equipped with a suitably designed cabinet, the dimensions of which are necessarily not quite as large as the rubber cabinet. It should be fitted with gas and compressed air cocks for case heater, etc., and in this connection special reference might be made to the new electric case heater, manufactured by Bosworth & Co., of Cleveland, Ohio. This useful piece of apparatus is constructed on the same principle of the ordinary porcelain furnace, except that instead of the semi-enclosed muffle of the porcelain furnace, an open hearth electrically wired for generating heat by resistance and made so that it can be tilted at any angle for facilitating the flow of solder. This bench should be equipped with drawers containing compartments for the various instruments and appliances used for gold work. In this connection we might refer to those trays which contain the precious metals. These should be of ample size and number, this last depending on, of course, the size of this branch of the practice; should be of plate brass, preferably with subdivisions for various carats of solder, and should be made so that they can be securely locked during the absence of the dentist. A small hood leading to main flue, fitted with bunsen and gauge upon which to rest acid bath for pickling gold work is a useful accessory for the gold bench. And it should be fitted with a tray of ample size for holding the scraps and filings which occur during daily practice. This department, as before named, should be fitted with a set of pigeon holes, by means of which the operator can tell at a glance just what there is to do and when it is to be done. It has been considered for reasons of displacement and upsetting of bottles, etc., on or above the gold cabinet, advisable to have a separate department for the operation of swaging, etc. This can be conveniently located near the gold cabinet, and should be fitted with a good anvil embedded in sand, hammers of suitable size, swage presses, swagers, dies, rings, and all apparatus which would come under this head. And can be assembled and arranged in a neat cabinet kept for that purpose.

The department of porcelain work next offers itself for consideration. This department should be conveniently located to both the swaging cabinet and gold soldering cabinet for obvious reasons. It should be designed in such a way that while the operator is in a sitting posture his eyes should be on a level with the porcelain furnace, which, by the way, should always be made to operate from in front. In this connection it might be

noted that a small piece of dark spectacle lens mounted in a single spectacle frame and made to swing in front of the muffle has been found to be of greatest service in watching the fusion of porcelain. Beneath this and at convenient working height should be a bench fitted with drawers containing compartments for the various instruments, supplies, accessories, etc., for carrying on this branch of dental practice. Also, in this connection it might be noted, a simple electric arc device for the fusion of platinum scrap. A coil, made by winding eight pounds of No. 18 magnet copper wire in simple series with a flat carbon, upon which the scrap is to be laid, and a common round carbon, such as used for ordinary arc street lamps, suitably insulated and mounted, between which the arc is drawn off. With this simple apparatus it is quite easy to fuse small quantities of platinum scrap, and with the rolling mill, which should be always found in a busy office, can easily be reclaimed and used again.

In passing it might be well to note simple apparatus which can be made from an old electric bell, by means of which porcelain can be packed with great rapidity and ease and thoroughness in a crown or inlay matrix. The knocker of the bell simply taps the porcelain in position, doing away with the necessity of the longer drawn-out operation of jarring it down with a serrated instrument. A neat cooling chamber made of Russian iron, preferably lined with asbestos, fitted with a small door, would be found most useful for cooling inlays, crowns, etc. It is intended that in this department only the actual operation of baking and applying the porcelain should be carried on, while the preparation of the metal frame work is intended to be accomplished in the soldering cabinet.

From these departments we now pass on to a totally different and more mechanical branch, namely, the plaster, sand, and polishing department. This, as before stated, should, if at all possible, be placed in a separate room, and should contain a box lined with zinc containing drawers for accessories pertaining to the operation of moulding in sand, and a good size sink should be near at hand. The polishing stand should, if possible, occupy a separate position in the laboratory, and should be completely enclosed with a hood containing a removable and washable glass front, under which the polishing can be carried on without fear of flying particles of polishing material and dust entering the operator's lungs, this hood being connected with the main exhaust flue. An electric light should be inserted a short distance above the mandrel of the lathe; also a needle valve connected with water supply for drip on stone for grinding. The stand should be fitted with drawers containing receptacles for buffs, wheels, cones, bottles of different grits to use in polishing, and various other accessories to this important branch of prosthetic dentistry. In another location in the room should be the plaster

cabinet. This should be made with a glass top, preferably with a metal edge, arranged so that the plaster may be jarred down in impression flasks, etc. It should contain ample drawer space for flasks, tongs, spatulas, etc., and should be equipped with a water heater sparker, and compressed air cock. A few words might be said with regard to the arrangement of the drawer for containing waste plaster shavings from trimming models. This should be made of ample size so that the operator can work with his hands well in the centre, doing away with the possibility of flying bits of plaster in the room. This should be equipped with a removable tin sub-compartment, which can be emptied with ease. The drawers should be mounted on roller bearings, cheap, and obtainable at any hardware shop, doing away with binding, sticking, etc. A chute should also be provided from the top of the table for bench trimmings. A useful accessory for the plaster cabinet for the rapid trimming of models is a wooden lever about one and one-half feet long, hung at one end with a hinge, and a knife, upright, fastened thereupon, operating on a raised block of wood. This simple arrangement greatly facilitated the rougher work of trimming models, which can be finished with great ease and certainty by means of Dr. Angle's new plaster plane. Another section should be laid off for the operation of melting metals, pickling gold work, refining and metallurgical operations. This should be made, preferably, of copper, and should have a glass or a heavy metal gauze upon which to rest beakers containing acids, etc., and an electric lamp placed inside for illumination; the hood, of course, connecting with the main flue. This table should be made with a heavy iron top, and upon this the operations of making dies with the base metals, their refining and other similar metallurgical operations can be carried with ease and certainty, doing away with the possibility of contaminating precious laboratory metals with the base. As before noted, it is quite impossible within the limits of a small paper to do more than touch on such a large and complex subject, and it is sincerely hoped that any suggestions contained herein will lead to much more valuable ideas being brought out in the discussion.

**SPEECHES AT THE ANNUAL BANQUET OF THE  
ONTARIO DENTAL SOCIETY, HELD AT THE  
ROSSIN HOUSE, MARCH 13, 1908.**

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After singing the National Anthem and drinking the toast to the King, the toastmaster (President Mitchell) said: I am now going to ask what I would fancy would be a very difficult performance on the part of the individual whom I am going to call on, because I have seen him do nothing else but eat since I came to Toronto, and how he is going to perform what I ask him, unless he has let up a little recently, I don't know. However, I am going to call on Dr. Davey, of Morrisburg for a song.

Song by Dr. Davey.

TOASTMASTER.—I am going to vary the order of the toast list somewhat, and the next toast will be one which, I am sure, all present will enjoy. It will be one which will bring us back to the best days of our life, our college days. My college days were spent over the old turning shop on Louisa Street, yet I look back to those days with pleasure. In those days I made and formed friendships that I trust will never be severed, and I am certain they will not. It has been one of the privileges and one of the advantages of our convention that we should have an opportunity of meeting, and fraternating, and renewing our old acquaintances. The toast that I refer to is that to the Royal College of Dental Surgeons, and I will call on Dr. Moyer to propose the toast.

Dr. Moyer arose amid the singing of "He's a Jolly Good Fellow," and said: Mr. Toastmaster and Friends,—I thank you for your very kind reception. I thank you most cordially and heartily. I may say that I realize to-night as I never realized before that there are no friends like the old friends, that there is a bond of union between man and man that I believe is indescribable; one cannot understand it. There is a love between man and man that I think transcends the love of man for woman, and any man who does not associate with his fellowmen, who withdraws from his fellowmen and lives by himself, a recluse, is making a great mistake. There are many of us in younger days—I was one myself—who kept a little aloof from others. Brought up as I was I kept away from men, until I attended the Dental College, but there I formed relations and associations, and I formed bonds of friendship that are undying and seemingly growing stronger and stronger. I feel to-night in a very peculiar position; I cannot tell you how I feel; I don't seem to be myself. Gladness and sadness, joy, and—not sorrow, but—well, a sort of sentimental feeling, a feeling of embarrassment, something like Artemus Ward felt when he was introduced to

President Grant, when he said, "Grant, I feel embarrassed, do you?" (Laughter.) When I saw in the *Dental Journal* your convention was to be held on the 12th, 13th and 14th, I wrote that date down and pinned it on my desk and thought of it every hour since then, thinking of the pleasure that awaited me. I come back to-night, gentlemen, to spend one of the most pleasant evenings of my life I think. Perhaps you have some feeling that I have not been loyal to you, because I drew away from you. If you have that, I hope you will change it. I don't believe you feel that way toward me. It is not that I didn't have as much love for the dental profession as any other man in the profession. I am not here to tell you why I quit dentistry; that is a personal matter. In the first place, I want to thank you for your invitation. I would have come any way, though. In the next place I want to thank the dentists who were present at the Dental Convention a year ago, and sent me a telegram expressing their regret that I was not present with them. I want to thank Dr. Thornton and Dr. Spaulding and the Editor of the *Dominion Dental Journal* for the kind words they said. I want to thank the dentists of Toronto for the kind way in which they always received me. I always thought they showed me more consideration than I deserved. I appreciate that and can never forget it. For some years, some of you are aware, I was on the Board of Examiners. I at one time thought that at some time at a Dental Convention I would give you some leaves from my diary as a result of what I learned from some of those papers, but there is just one answer I am going to tell you to-night. Possibly the doctor who answered it is here. The question was, "State the causes for imperfect development of teeth?" and this candidate said, "Possibly the child's parents were not very well when they married." I have not got back to the toast. If I were to endeavor to say much to you about the R.C.D.S. you would be saying that you know more about it than I do. I have told some stories. A story helps a man out of a difficulty now and then. When he has nothing to say he tells a story. Some men are instructive. The difference between me and them is the difference between a snake and a bed-bug. A snake crawls on its own stomach; a bed-bug is not so particular. (Laughter.) The toastmaster has very nicely referred to our college days. The R.C.D.S.! I don't believe a man could have loved his Alma Mater better than I do. There is not a gentleman here to-night that has a higher regard for the dentists of Ontario than I have, and it is useless for me to talk to you very much about the R.C.D.S., the best educated lot of dentists in the world. I speak advisedly when I say that. You own your college; you are a law unto yourselves. You are not governed by party or by politics; you are not ruled by any trusts; you are what you make yourselves, and the future of the R.C.D.S. is in your own hands,

and I bespeak for it a very bright and brilliant future, because Canada has a very bright and brilliant future before her. We live in what someone has said is the best half of the best continent that God ever made. (Hear, hear.) And we own the bread-basket of the world. The time is coming, I believe, when the British Empire will have its headquarters in Canada. We to-day can raise enough cattle to supply enough meat and butter and cheese for the whole British Empire. We have territory enough to grow enough wheat to supply the world. It is said if one-sixth of the wheat land of Canada were giving half a crop we would have enough to run a train from the North-West every twenty minutes, each train to have forty cars, and each car a thousand bushels—every twenty minutes for a year, with one-sixth of the wheat land at half a crop. In New Ontario, alone stretching from Lake Huron to James Bay, it is claimed north of that height of land, there is a country there that will support six and a half million people; and the latest investigations show that in Labrador there is agricultural land to support one and a half million, and you come then to Northern Quebec and Ungava; and through the North-West we have a country capable of sustaining a population that we cannot comprehend—our possibilities are so great. If Canada were peopled as densely as Russia is south of the 60th parallel, that is 67 to the square mile—and that is no dense population—we would have 150,000,000 people in Canada. If one sits down and thinks of this and allows his imagination free scope, and it is a very pleasant thing to do, we cannot but feel that at the end of the present century the population of Canada must be somewhere from 60,000,000 to 100,000,000. Possibly it will be more than that. Sixty to a hundred millions population means a great number of dentists. My experience has been that not more than one person in ten—some say five per cent.—of the people of the United States ever visit a dentist. I don't believe more than ten per cent. of the people of the rural sections of Ontario visit a dentist. If that is the case, and teeth are growing worse and worse every year, and people are getting educated to care for their teeth, see the future for dentists in Canada. We are just beginning; dentistry has made rapid strides, but it has not made more rapid strides than Canada has. If you want to keep pace with Canada to-day you have got to keep moving. Dentists have done very much and dentistry has reached a very high state of efficiency, and yet not so very high. Some years ago Dr. McElhinney read a paper on the necessity of educating the public as to the possibilities of dentistry. At the time I was not very enthusiastic, not because the paper was not well written, but because I thought the time was not opportune nor the necessity very great; but I want to say seventy-five per cent. of the people of Canada to-day do not know that it is possible to crown a root, do not know that it is possible

to treat an abscessed tooth, do not know there is such a thing as bridgework. If that is the case these people should know, and some means of educating them should be taken. I am speaking now not as a dentist but as an outsider, as to the information that I would like to have, provided I were in the same position. Many of these people have money, they are wealthy; and yet they know nothing about dentistry. I don't throw this out as a criticism, but I am just talking about the possibilities of the future of dentistry. I might say nice things about the R.C.D.S., and I know you would bear it most heroically, but I am going to offer you one criticism, which you may take as gracefully as you like—as you can, rather; the one criticism I have to offer and have had for dentists for years is that you are too liberal with your criticism of the R.C.D.S. You never hear a graduate of a dental college in the United States denounce the college from which he graduated; you never hear them say anything about their professors except that they are the best available, the best in the United States. If we had some rival college in Toronto and another in Hamilton, and a premium were placed upon the graduates of each one, it might be different, because they would be fighting for their own college. Whenever you criticise your own college, or your own professors, or your own dental journal, you are demeaning your Alma Mater, you are demeaning yourselves. Don't do it. Stand up for your college. With regard to the dentists of Ontario, I may say this, and I know you will believe it, they are the finest body of men I ever met or ever expect to meet. Viewed from a moral standpoint you cannot beat them in any profession, and I will not leave out the clergy. (Hear, hear.) I think it is a standing monument to the morality of the dentists of our country to notice that it is years since any of our dentists fell. I have no criticism to offer, as men. For the R.C.D.S. viewed from the outside, or dentistry viewed from the outside there is this criticism. You don't deserve it but you will get it, and it will gradually wear off—that is, you are accused of a narrow professionalism. That is because people don't know what you are capable of doing. People need to be educated, and you are the people to educate them. One more criticism I have to make. I think the dentists generally stick a little too close to business. I remember one time endeavoring to frame a dentists' decalogue, and the first was this, Thou shalt have no other business but one, and the next was, Remember your holidays to keep them sacred. You try and remember that second. If you want a good holiday you want to get away to the woods. That is my favorite theme; there is no place where a man can reinvigorate and rejuvenate as he can when he gets away back in the woods among a lot of men who can appreciate that kind of life; and I advise every dentist, Don't wait till you practice ten years, as I did, but every year take your holiday,



because the business you are engaged in is one of the most exacting that men can engage in. I read an article one time that dentists and barbers are subject to the same affliction if they stay at it too long, that there is a liability, owing to the position in which they stand, of a certain amount of pressure on the spinal cord that will result in spinal meningitis; and the only dentists that have died in our community since I have been practising have died in the same way. Remember your holidays. Dentistry is very much harder than the work I am engaged in at present, and if you are not very careful you will undermine those good constitutions which you have. I have taken more time than I should have taken; I will not do so again possibly for a long time, but some day I will wander back again. I cannot stay away. I thank you cordially for the reception to-night and hope that at some future time we may meet again. (Applause).

The toast to R. C. D. S. was then drunk, and Dr. Thornton was called upon to respond.

DR. THORNTON.—Mr. President and gentlemen, I had a letter last week from Dr. Moyer telling me he was going to be at our banquet, and I wrote to him expressing my delight at the prospect of meeting him once again; and yet, as I thought afterwards, like Dr. Moyer himself, my feelings were not unmixed with sorrow as I realized that possibly this might be my last opportunity for seeing Dr. Moyer for sometime. There came to my mind the thought of the trial of the plumbers in this city, and then of the tack combine, and now that Dr. Moyer has graduated to the head of a manufacturing industry, I said, "The next time I may have to go to the Central Prison to see him." And yet we are glad to see him because it is always like a little of the milk of human kindness to have Dr. Moyer with us. I was reminded of a story told of Nicholas Flood Davin. Before his death he was invited to a church concert, and was to be the principal speaker. The men in charge were making preparations for the concert and as they neared the completion of the preparations, one said, "Now, what are we going to have for Davin to drink; after he speaks for awhile he begins to flag, unless he has a stimulant, and we have advertised him as the principal speaker." The other said, "I don't care, I am not going to sacrifice my temperance principles for Nicholas Flood Davin, and he will have to drink water." Finally they compromised on milk, and just before they retired to get their supper and put on their best clothes they brought in a big jug of milk. One of them had a big Irish heart, and this heart went out to Davin and he took a big bottle of whiskey over to the church and poured half the milk out of the jug and filled it up with the whiskey. Davin opened with a magnificent burst of eloquence, and after he had been speaking for ten or fifteen minutes he looked behind the pulpit and saw a glass there and a jug of milk, and there was a look of disgust

came over his face; but he thought, "I have got to have something to wet my whistle," so he poured out a little and tasted it. Then there was a broad smile spread over his face, and he took a great big drink, and he held up his hands and said, "God bless the cow that gave that milk." So we say, "Heaven bless somebody who put it in Moyer's heart to be with us to-night." I am to speak of the Royal College of Dental Surgeons. Henry Drummond, that bulwark of the Christian Church, said "the best evidences of Christianity are not the evidences but the Christians"; and so I say to-night, "the best evidence of the Royal College of Dental Surgeons of Ontario is not the building up on College Street, of which we are all so justly proud; it is not the men who have made that institution what it is and have seen it develop from such small beginnings to the magnificent proportions that it now assumes. The best evidences that the Royal College of Dental Surgeons is fulfilling, and has fulfilled, a mission for which it was brought into existence, are the magnificent men that surround these tables to-night, the peers of any similar body of men on God's green footstool." (Applause.) And so I say to you it is a pleasure to me to-night, as I see the result of this institution, to speak to you for a short time on this subject. You will remember a few weeks ago Sir Howard Vincent addressed a letter to one of the Federal Ministers of this Canada of ours, and he reminded him of the fact that although Chamberlain was so overwhelmingly defeated, if only the number of members were counted that espoused his cause, it must not be forgotten that forty-four per cent. of the electors of Britain had endorsed Chamberlain's policy. You will say, What has that to do with the Royal College of Dental Surgeons? It has this to do. Somehow, I know not how; sometime, I know not when; through some man, I know not whom, there is going to be brought about an imperialism that the world has not yet dreamed of; because of a closer relationship of the integral parts of the empire there is going to be a greater Britain than we have yet dreamed of. And because of that I say that the time is now opportune; to use the expression we now see very frequently, it is the psychological moment, when, if ever, the Royal College of Dental Surgeons must start on a larger sphere, to describe a larger circle, than it has ever yet done. When we think of the legislation that has been introduced, the Dominion Registration Act, and similar Acts in regard to the other professions, we see the necessity of taking some stand which will give us the position to which we believe we are so justly entitled. I saw an exhibition sometime ago, indeed it was here in the City of Toronto, and on almost every exhibit I saw this sign, a sign of which we are all very proud, "Made in Canada." But there is another motto that I believe we may adopt as our own, not made in Canada, but "Britain for Britons, and Britons for British institutions"; and so I am

optimistic enough to believe that with the institution which we have in the City of Toronto that we should make it the institution for dental education of all British possessions. We have in the school to-day, and have had for several years past, students from New Zealand and Australia, and so when we think of the dentists that have to be supplied from the Atlantic to the Pacific and for the Islands of the sea, we must grapple with this position and with this crisis, and we must make provision for further growth or else forever stand still. In order that this may be brought about there are some things that must be done. The primary object of our existence as a college and as an institution is to fit men for responsible positions in life. It is an altruistic mission; it is to enable men and women to be happier in this life because of the operations we perform. In order to do that we are face to face with this problem. Those of you who are married and have families know that every additional one to the family changes the conditions. A house that is big enough for three persons is not big enough for four. Now we are in that transitional state; we have had three classes, now we have four. The infirmary, and the college and the faculty that were big enough for three classes are not big enough for four, and so changes must be brought about, and if we are to succeed we must have increased infirmary practice, we must have increased infirmary accommodation, and we must have many changed conditions if we are to make that progress we believe we could make and which we owe as a duty to the community at large. There are duties devolving on us dentists; we should see to it that the men elected to represent us on the Board of the Royal College of Dental Surgeons are the biggest possible men, of the broadest possible culture, men who will rise to the dignity of their position and who will see to it that they do themselves and us the honor they should in working out the destiny of that college to the best possible end. (Hear, hear.) That is our duty, gentlemen. The board has a duty to perform. We have had good men on the board before; there never was a time in the history of the institution when there was a demand for action so large as, at the present time, to grapple with the difficulties that must be grappled with if we are to carry on our work to a successful issue. Those who are on the faculty have a duty to perform. It is our part to see that the men that come out from the institution are equipped as largely as possible for their future life work, and I take it that that man who thinks he is giving the best to the student who simply teaches them the subject designated by his chair, falls far short of his duty. If in other ways he does not try to make the students under his tuition as large and broad-minded as possible in every field of culture, then I say he has no position on a faculty either of a dental college or any other college in which students are placed under his tuition to be fitted

for their duties in life. We have heard and still will hear from a man (Mr. Downey) with a tongue of eloquence something of the possibilities of Canada; but as a dentist, and as speaking to dentists, I want to ask you if there is not room in Canada for some man in the field of bacteriology, to discover oceans of knowledge, oceans of research that are still undreamed of. Have we not in Canada room for some man in physiology, some Kirk who will make his name and our Canada famous? Is there not room in operative work for some Johnston or some Black? Is there not room in mechanical work for a Goslee or a Haskell or a Peeso? In all these fields if we are going to attain to our own full stature we must grapple with the problems that now confront us, that must be solved at once. Never in our history have the board had so many difficult problems to solve, and it behooves us as their brothers to stand should to shoulder in the solution of these problems, and afford them every possible help. I thank you, gentlemen, and will not further encroach upon your time. (Applause.)

Mr. Fisher then sang, "Boys will be boys."

TOASTMASTER.—Gentlemen, the next toast is one which will delight you all. It is one that has been touched upon briefly by some of the previous speakers, and it is not up to me to offer any words when I look upon this toast list and see the names that are coupled with it. I will call on Dr. Cæsar to propose the toast to Canada and the Empire.

After singing the "Maple Leaf,"

DR. CÆSAR.—Mr. Chairman and gentlemen, the hour is getting along and I will not keep you but a very few minutes. It appears to me our chairman has given me a very large subject—Canada and the Empire. It is large if you consider it in terms of thousands of square miles or millions of acres; it is larger still if you think of it as concerning the prosperity of its inhabitants, and the peace and progress of the world; and if we are going to be worthy citizens of our world-wide empire, this great constellation of free states, we have got to be large, too, large in our ideas, large in our hopes, large in our labors, for we must not forget it is the people of the country who make the country. Every individual man has something to do in building up a nation. Perhaps you will ask me, some of you, what we have got to do, we dental surgeons—what have we got to do with building a nation? How can we help Canada and the Empire? Well, for one thing every man who does his work intelligently and well, dentist or divine, farmer or follower of the sea, helps his neighbor, and his town, and his province, and his country, whether you take it in the wider sense of the empire or the narrower sense of Canada. For, gentlemen, it is the conscientious and well instructed labor of hand and brain in any work that builds up a community or country. So while we cannot all be

statesmen or warriors, we can all do something for Canada by being faithful to our obligations as citizens, faithful to the duties imposed on us by our profession, loyal workers in seeing that Canada will not fall behind other countries in discovery or achievement; and so long with thousands more of our fellow-Britons, who are working faithfully in other parts of this great heritage of ours all around the world, we shall build up this Dominion, and with it this the greatest Empire that has been. Gentlemen, I offer you the toast of Canada and the Empire, coupling with it the name of Mr. Downey, M.P.P. (Applause.)

J. P. DOWNEY, M.P.P.—Mr. Chairman and gentlemen, I desire in the first place to express my thanks for the kindly invitation extended to me to attend this your annual banquet; and greater thanks still for the high honor you have conferred upon me in inviting me to respond to the toast that you have received with the cordiality and enthusiasm with which such a toast must ever be received within the borders of this province or of this Dominion. I congratulate you, Mr. Chairman, on being privileged to preside over such a magnificent gathering as this, an assemblage that seems to breathe the very spirit of goodfellowship. Certain it is that whatever may be said in criticism—and we have heard something in criticism of the dental profession here to-night—whatever may be said in criticism of that profession or of its individual members, from what I have seen and heard at this festive board, no one can urge with truth the charge that the petty jealousies that sometimes lessen the influence and lower the standards of other professions enter into the calling with which you are all identified. (Hear, hear.) As one outside the pale of your profession I heartily congratulate you on the spirit that animates you. This coming together annually and discussing questions of interest to you, is valuable and important not only to you but to the people whom you serve. Your profession has grown with the educational growth of the country, and in its growth the public have reason to rejoice as well as you because your profession touches very directly the health and happiness of the entire community. It is, therefore, gratifying to see and to hear the evidences of your continued progress. May I bespeak for your association in the year on which you have entered—I suppose you call your annual meeting the beginning of another year—additional prosperity in your individual work, and for the Royal Dental College and all those associated with it in this Province of Ontario, a banner year in the mission in which they are engaged in fitting other men to take the places of those who are falling out of the ranks. (Applause.)

Now, Mr. Chairman and gentlemen, as the gentleman who proposed this toast has well said, the toast of "Canada and the Empire" opens up a very large question, "Possessing as we do so many things which foreign nations long for but can never

hope to attain." Truthful words you have printed on your menu cards, words uttered by that eminent statesman, that man who stood high in the councils of the Great Empire of which he was a faithful servant, beloved by his Queen, sent here as the executive head of the Dominion, and during his all too short sojourn winning a place in the hearts and the affections of the people of Canada, such as no Governor-General before his time or since his time has ever succeeded in winning—the brilliant Irishman, Lord Dufferin. (Applause.) Speaking of the toast as it refers to Canada, I think that on an occasion of this kind the first feeling, the first impulse in the heart of every Canadian present, must be one of gratitude, gratitude for the splendid heritage that has been handed down to us. Gratitude that we are living in such a country, that we have sprung from a grand old race, that our fathers were the Empire-builders long, long years ago far across the ocean; that here we are the heirs in possession of the intellectual wealth of centuries, heirs to the achievements of the men who have emblazoned their names on the pages of history, men who have hung the lamps of genius in every quarter of the globe, men who have carried the grand old flag, which we thank God is floating over this Dominion to-day (applause), carried that flag to the remotest parts of the earth (applause); heirs to the fruitage of the genius and patriotism of the men whose memory is honored in every clime—the poets, the statesmen, the warriors, the scientists who have placed Great Britain in the first place among the nations. We have inherited, too, laws we should be proud of. We have that liberty-inspired constitution for which our forefathers struggled, and many of them shed their blood to attain. We are heirs to the glorious traditions of the British Empire in arms; we are heirs of Blenheim, of Ramillies, Vittoria, aye, heirs to the great achievement of him who stemmed at Waterloo the tide of the French despot when all Europe seemed to be shaking under his martial tread. (Applause.) Looking only to our own land, casting our minds back to the dawn of British rule in this quarter of the globe, we have reason to be grateful for the victories won on our own soil, the valor and the genius that inspired Wolfe and his little band to climb the Heights of Quebec, hurl back the chivalry of France on the Plains of Abraham, and plant the Union Jack there to remain floating forever. We are grateful that he lived and we are grateful that in his death he bequeathed us such a priceless heritage. We are grateful too for the men who, when the footsteps of the invader were heard on our shores, drove back that invader. We are grateful that Brock lived, and that there was a Macdonnell and a FitzGibbon to help him; that there was a Laura Secord to initiate that exploit, the most daring recorded in the war. (Applause.) But, Mr. Chairman and gentlemen, while we are grateful for all these things there is something else. As Cana-

dians we rejoice that on the battlefields of South Africa was buried every remnant of the Little Englander party, and that from the graves of the men who died fighting there, the Canadians, the New Zealanders, the Australians, and the valiant fellows from the regiments of the line, that from their graves arose a new and grander imperialism, mighty in the walks of war but glorious in its possibilities for the encouragement of the arts of peace. So it is, looking only to what is possible for Canada and the Empire along the walks of peace, let us be ever grateful for the quiet self-sacrifice and lonesome toil endured by the pioneers who first came into this country and beat back the wilderness. Their lives, it is true, offer little that is inviting, but when we look into them we see something that is grand in its simplicity, bright with gleams as pure and radiant as the stars. They came from the old lands not because they did not love their country, not because they did not love the homes of their fathers. No, they came, many of them, because they had felt the pinch of poverty; because they realized their duty to themselves demanded they should seek fresh fields across the ocean, and in this new world try and attain that which seemed to be denied them at home. But in the old land, however poor they may have been, however bitterly the hunger pain may have been gnawing, they had something to be grateful for. They could listen to the sound of the church bells on the Sabbath morn, and their hearts were gladdened by the laughter of children playing on the green, or the companionship of friends near and dear. But in this weary, trackless forest all was silence and loneliness unutterable—no sounds through the day save the echoing axe of a neighboring woodman; the mighty melancholy of the woods through the stern hideousness of the night disturbed only by the howling of the wolf or the screech of the owl. But they toiled on and on. They bent their necks to the yoke and their backs to the burden. Talk of warrior courage! In those days every farm was a battlefield and every clearing a victory. "It is hard to sow the seed and not live to see it grow or even know with certainty that it will grow," and so those grand old men who labored for morrows whose sun never gladdened them, finally sank into the bosom of mother earth, and in dying they veritably made of their bodies a bridge on which their children might travel to the towns and cities, the busy marts of trade, the colleges, the universities, the hospitals, and the courts of law. In many an abandoned cemetery, overgrown by weeds and tangled shrubbery, there rest in graves unmarked and unknown, men who in the sweet simplicity of their lives, in their love for those whom they were pledged to protect, in the high integrity of their actions, are as great as those who sleep in chancelled aisle, or are commemorated by "storied urn or animated bust." (Applause.)

Oh, ye, with cannon or battle shot,  
And soldiers to shout and praise,  
I tell you the kingliest victories fought  
Were fought in those silent ways.

In those silent ways, in those days dark and drear, was laid the foundation of the splendid edifice we all now glory in—the first daughter of the Empire. (Hear, hear.) When we come to consider what has already been alluded to by one of the speakers, the material resources of our country, we are impressed by the magnificence of the heritage that is ours. We have immediately to proceed to use the superlative. Canada has the greatest stretch of lake and river navigation, the greatest area of coal producing land; we have the greatest diversity of precious and economic minerals; we have the greatest fresh and salt water fisheries; we have the finest areas of pastoral and agricultural land of any country on the face of the globe. Figures are always dry, they say, but some of the figures in reference to Canada's development are so astounding I do not apprehend that they will be uninteresting to this audience. In mineral development we find that while in 1886 our mineral resources only yielded \$10,221,000, in 1905 the figures have grown to the magnificent sum of \$68,500,000. In the Province of Ontario alone mineral development has grown from \$4,705,000 in 1891 to \$22,500,000 in the year 1905. (Applause.) But we can turn away from Ontario. We can leave for the present any reference to its industrial development or to the splendid results that have flown from the more scientific and intensive system of agriculture pursued, and we can look to the great West. I think it is just about twenty-five years ago now that the C. P. R. was asking the capitalists of the Mother Land to invest in a ten million dollar issue of bonds in order that it might proceed with the construction of that great highway which connects the Atlantic and the Pacific. *Truth*, the organ of the great parliamentarian, Labouchere, uttered a harsh criticism of the proposal, and some of its criticisms of a quarter of a century ago may be interesting to us now, especially in the light of subsequent events.

"The C. P. R. will run," says Labby, "if ever finished, through a country frost bound for eight months of the year, and about as forbidding as anything on earth. British Columbia is barren, cold, mountainous, not worth keeping; fifty railways would not colonize it into prosperity. The Canadians are not such idiots as to part with one dollar of their own for this scheme. They come to England. Canadians know the road will never yield a single red cent for the money sunken. People cannot stand the cold of Manitoba, men and cattle are frozen to death in astonishing numbers. It is through a death-dealing land of this kind that the railway is to run. Canada is one of the most over-



rated colonies we have. Ontario is the only sound province and the only one where you can lend money and ever hope to get it back." (Laughter.)

What do you think of it, gentlemen? What do you think of this reference to Canada, to the great national enterprise that we were then entering upon, to our great West which has since welcomed to its smiling prairies the people of every land on the civilized globe who are seeking a home and who are willing to work? For an answer I shall only refer to one or two salient facts that have been adduced by men of unquestioned standing. Lord Strathcona not long since declared the Northwest would in ten years yield enough grain to feed the entire British Empire. (Hear, hear.) And he quoted statistics to show he was perfectly justified in making that prediction. Mr. Theodore Knappan, one of the most prominent business men in the great milling centre of Minneapolis, addressing a State Bankers' Association, some few months ago, said that within ten years the Northwest of Canada would produce 250,000,000 bushels of wheat. This is the statement not of an optimistic or over-enthusiastic Canadian, but the statement after due research and enquiry of a hard-headed, practical business man of the United States. George Johnston, the Dominion Statistician, treats the subject in another way. Mr. Johnston makes a parallelogram comprising sixty-seven squares of wheat-growing lands in our Northwest, and he says that any one of those squares, yielding the average yield per acre of wheat that Manitoba has had for the last eighteen years, is capable of producing enough wheat to feed the whole British Empire. This statement once more, gentlemen, is not the statement of a theorist or of an optimist, but it is the statement of a man who by his work and training has grown to know how careful he should be in making estimates of that kind. (Hear, hear.) Twenty years ago we had only 250,000 acres under cultivation out there, and we grew 1,200,000 bushels of wheat. The last return says we have 4,400,000 acres under cultivation, and over 100,000,000 bushels of wheat. In 1893—that is not very long ago—the immigration to that country numbered 10,681; in 1904 the figures are 124,603. Who, I would ask, can picture what that country will be twenty-five years from now when the greater part of that vast territory, capable of producing, as has been shown, enough grain to feed the civilized world if need be, will be settled by industrious, thrifty farmers from Ontario, from the Mother Land, from the United States, and from the overcrowded centres of Europe. It is an important fact to remember, in reference especially to our Imperial relations, that as our capacity for the production of wheat increases with the settlement of our fertile lands, the capacity of the United States is gradually decreasing. This is not a statement made to disparage the resources of the Republic to the south, but as a matter of fact

the wheat-growing lands of the United States are already pretty well occupied. All the future increases of the population there must be in the industrial centres, and that increase of population will gradually absorb more and more of the wheat products of the United States, and they will have less wheat to export to the Mother Land or to European countries; and while the wheat exports of the United States must gradually decrease, Britain's need for such imports is increasing. For instance, in 1875, Great Britain had 31,000,000 of a population, and she had under cultivation 3,737,000 acres of land. In 1901 the 31,000,000 had grown to 41,000,000 of population, but the acreage of 3,500,000 had sunk to 1,957,000, clearly showing that as the years go by, and as we increase our facilities for the production of grain in the West, the markets of the Mother Land will be in a better position to receive all that we can grow. (Applause.)

May I, without wearying you, quote a few more figures illustrative of Canada's steady growth and present prosperity. Our over-sea trade at the present time is \$500,000,000, double that of Japan and almost equal to that of Russia. Our merchant shipping is greater than Japan; our railway mileage more than half that of Russia. Railway statistics are a reliable barometer of national progress. In 1867 there were 491 locomotives in use on Canadian Railways; now there are 2,768, and the C. P. R. alone has 999. In 1867 our railways had 7,924 cars of all kinds, now the number is 88,757. In 1867 the receipts on all railways amounted to \$12,029,000, in 1904 they were over \$100,000,000. The expenditure in 1867 was about \$8,000,000, in 1904 it was \$75,000,000.

Mr. Chairman and gentlemen, it is a great satisfaction to you all, I have no doubt, to have with you here to-night representatives of the friendly Republic to the south. (Hear, hear and applause.) Gentlemen who are an honor and a credit to the profession to which you belong, and who I am satisfied have brought from their brothers across the border messages of goodwill and good fellowship to those who are working along the same lines in this Dominion. On occasions of this kind when around the festive board sit representatives of the two great branches of the Anglo-Saxon family, we recall with pride and with gratitude some of the incidents that have transpired within the last few years. There was a day—and may that day never come again—when it seemed that our relations would become strained, but events, in the providence of God so shaped themselves that in recent years the friendship between Great Britain and her offspring, the Republic of the United States, has been intensified. (Hear, hear.) National sorrows and dangers have helped to bring that about. For instance, when the people of Great and Greater Britain—in these northern regions, under the pale light of the Southern Cross, in the far distant Orient and the Isles of

the Sea—bowed their heads in sorrow because the good Queen Victoria had relinquished forever the sceptre, which for over sixty years she had swayed so lightly and yet so firmly, who among the nations of the earth offered kindlier and more genuine sympathy than our brothers to the South? (Applause.) And when only a few months had winged their flight, and by the assassin's hand, he who had won a place in the hearts of his countrymen, great in peace as he was great in war, fell in the City of Buffalo, every Canadian heart went out in sympathy to his stricken people, and from every part of the British Empire the people of the United States received messages of consolation in the heavy affliction that had befallen their nation in the death of their beloved President. (Applause.)

But, while we admire the people to the South, and while they have reason to be proud of their splendid institutions and to joy in the glorious record of their fathers, let me say in all frankness that I like our system of government better than theirs. Lincoln called it a government of the people, for the people, by the people. I say that the only genuine, federal republic on the North American continent is the Dominion of Canada. (Applause.) We, in a truer sense than they, have a government of the people, for the people, and by the people. Why, in the United States if a government once gets into power, if they once elect a president and an executive, they must tolerate that president and that executive for four years. The people may be dissatisfied, they may agitate, they may hold meetings all over the Union, but all of no avail. Their only course would be to impeach the head of the executive, as they did in the case of President Johnson. Here we have the crystallization of the lessons of the centuries, modified by time, changed by practical experience. If the people are not satisfied with the government, out it must go in forty-eight hours if they demand it. We saw in the Mother Land a few months ago a government in office that had evidently lost the support of the people; a government in power that was no longer legislating in accord with the wishes of the people. What did that government do? It laid down the reins of office, tendered its resignation to the King, and a new government was called into power. Such a condition of affairs would be impossible in the Republic to the South of us. Then there are other features of the government of the United States in comparison with which I think we might well say that we have a better system. Every four years there are State elections; every two years there are Congressional elections; every four years a Presidential election; and, as our friends here will admit, all these elections are calculated to keep the people in a state of turmoil. The President is elected in November, and he takes office in the March following, and the House of Representatives, elected at the same time, does not take up its duties until the December

following. During those thirteen months any reforms the people have agitated for must remain in abeyance. In the President of the United States are vested larger powers in directing the affairs of the nation than the King of Great Britain may exercise. Then again the co-ordination of the legislative and administrative functions of government under our system—as distinguished from their absolute severance and independence in the United States—conduce to care and deliberation in the making of laws, while our judiciary, totally removed from political influence secures to us the absolute and impartial enforcement of those laws in every quarter of our Dominion.

In saying this we have nothing but praise for the Republic to the South, their patriotism, which should be an example, their love of country, their pride in the flag that floats over them, and their firm belief that there is no flag flying in the world over a people so free, over a country so prosperous. Long may we live in peace and friendly rivalry with that people. (Applause.)

As Canadians we are confronted with the problem of closer relations with the Empire of which we form so important a part. I was impressed by the views of Dr. Thornton on the result of the recent elections in the Old Country. He pointed out that the sentiment of the people of Great Britain and Ireland is not to be measured by the number of men sent back to oppose Mr. Chamberlain. Rather is it to be measured by the popular vote cast at that election; and measuring it by that standard we find almost as great a number behind Mr. Chamberlain as those who opposed him. It is not for me to say how closer trade relationship is to be brought about between this Dominion and the Mother Country. The "crimson thread of kinship" that binds us to the Mother Land is strong enough, I believe, to continue to hold this Dominion true and loyal to the country from which it sprung. But I believe it to be in the interests of the Mother Land and in the interests of her far scattered dominions to supplement those ties of sentiment with ties of mutual self interest. I believe it should be possible for statesmen representing the best thought of the colonies and of the Mother Land, to devise a scheme by which it could be made mutually advantageous to all the members of the Imperial family to trade more freely with each other. (Hear, hear.) Let us hope it may soon come. There is no politics in the question; the question should be and is above politics. We as Canadians desire to remain a colony of the Mother Land. There is no longer any talk of annexation. The most influential journals in the United States bear testimony to the independent position of Canada, and cordially recognize that the future of these countries must be to live in peace side by side, each working out its own destiny, each in friendly rivalry with the other for the markets of the world. So there is no longer any thought of annexation. We look to the

Mother Land for markets for our products; we look to the Mother Land to strengthen those relations that have been so satisfactory to us in the past.

Touching the question of Imperialism I am satisfied the vast majority of Canadians do not share in the view expressed recently at Ottawa, that it is not necessary that we should have care at all for the defences of our country, that we might take shelter if need be, behind the skirts of the Munroe Doctrine and depend on the United States navy to protect us. I believe if any foreign nation sought to cripple England by invading the Dominion, we might, if we desired, look to the navy of the United States to come to our assistance. But as a self-respecting people, we should seek for something better than that. We should try to do something for the protection of our shores. Enjoying that protection we should bear some part of the burden it entails. We get security from the fact that the British Empire has the mightiest navy in the world, a navy equal in strength to those of any two or three powers in Europe or elsewhere combined, but we allow the people of the Mother Land to shoulder the entire cost.

I shall not, though the subject is inviting, dwell on the position of our Empire, its wealth, its power, its extent, its influence for the good of humanity. Yesterday hers was a position of "splendid isolation," and she maintained it with dignity, strong in the strength of the loyalty of her children and the knowledge that should her honor be assailed and the call go forth, "One by one through the vastness dim, the whelps of the lion would answer him." (Applause.) To-day hers is the dominant voice in European councils—ever and always raised in the interests of peace. Our Sovereign has been named "Edward the Peacemaker," and worthily has he won the title by his tact, his diplomacy and abiding common sense in times of stress, co-operating with and receiving co-operation from that other great peacemaker, Theodore Roosevelt, the honored President of the United States. (Applause.)

We have done much in this Dominion. It is but a few short years since the rock-bound shores of Lake Superior seemed to say to the civilization of the east, "Thus far shalt thou go and no farther." But we have broken through those barriers. We have pierced mountains and spanned torrents and have dotted the great prairies of the West with happy homes and made them smile under fields of golden grain. But much remains to be done. Who shall set bounds to our future progress? To Canadians it is given to fulfil more fully the prophecy of the Druid chief when the last of the British Queens sought counsel of her country's gods and the Druid, looking down through the centuries, saw the immensity of the Empire that was to be, the thriving industrial centres and the great stretches of fertile lands in this Dominion, the splendid colonies of Australia and New Zeal-

and and South Africa, and he predicted that Britain's sons would one day "command a wider world"; that her posterity would sway "regions Cæsar never knew." That that dream may be realized far beyond the expectations of our fathers, we must go forward with firm, self-reliant steps. Behind us is a record of which we may well be proud. Before us is a prospect inviting enough to fire the enthusiasm and stir the patriotism of any people. Golden opportunities beckon us on. We are in truth the architects of our own national edifice. Naught shall make us rue if Canadians "to themselves prove true." When the mother of the Gracchi was asked for her most priceless jewels, bringing forward her two sons, she said, "These are my jewels." If we are true to ourselves then may this Dominion say to the world "great as are our material resources, glorious as is our climate, grand as are our institutions, the most priceless jewels I possess are my sons, true men of the Northern Zone, worthy sons of the Empire, proud builders of this greater Britain beyond the seas." The fathers of Confederation laid broad and deep the foundation of this Dominion. Ours it is to erect a noble superstructure, story upon story until it shall stand forth in all its beauty, a completed national edifice in which shall abide forever peace and justice and happiness and prosperity, challenging the admiration of the world, and evoking more fervently from every loyal Canadian heart as the years roll on the prayer of the poet:

"Did kindly Heaven afford to me  
The choice where I should dwell;  
Loved Canada that choice would be,  
The land I love so well.  
I love thy hills and valleys wide,  
Thy waters' splash and foam;  
May God in love o'er thee preside,  
My own Canadian home."

(Prolonged applause.)

TOASTMASTER.—Gentlemen, I feel that I speak the sentiments of every person present when I say of myself that I feel if I had received nothing else in Toronto, it has paid me to come the 200 miles I have travelled to hear the address our friend has just given us. (Hear, hear and applause.) I call upon Mr. McCoy, of Buffalo, for a song. (Applause.)

Song by Dr. McCoy.

TOASTMASTER.—Gentlemen, the next toast is one which I am sure you will all join in heartily, and it is one that we feel it a pleasure to do justice to, if we possibly can. I feel that we cannot do too much for our guests who have kindly come over here and spent their valuable time to help us and instruct us in the higher walks of our profession.

DR. HACKETT.—Mr. Chairman and gentlemen, and members

of the Ontario Dental Association, after listening to the oratory of Mr. Downey anything I might say would sound like sounding brass or tinkling cymbals. I may say it is a very great pleasure, I assure you, to be present this evening; in fact it is a pleasure at all times and on all occasions to meet with members of the dental profession. We all share alike in our trials and difficulties. Sometimes we meet with what we consider a great deal of success; at other times we fall far short of it. It reminds me, in fact, of the story of two Irishmen who came over and landed in the City of New York, and as they were sauntering around the city they beheld several signs, Dr. So-and-So, Dr. So-and-So, and being brothers, Mike said to Pat, "Begorra, this must be a fine business, so we will start the doctoring business." So Mike decided to start up in one end of the city and Pat started in another. After several days they met in the street. Pat says to Mike, "Well, how have you been getting along?" "Arrah, not very well," said Mike. "How have you been doing, Patrick?" "Oh," he says, "fine; I had a case of confinement the other day." "Well, how did you make out?" "Well, the mother and the child died, but I saved the old man." I may say, gentlemen, when we meet on occasions of this kind around the festive board it has a tendency to make us forget that even we have troubles of our own. I have the honor this evening to propose one of the most important toasts of the evening, that of the Toast to our Guests. We have with us this evening, I am proud to say, members of the dental profession from the chief centers of the United States. This is not the first occasion on which the Ontario Dental Society has received assistance and instruction from the members of the profession across the border line, but on every previous meeting of this society, since I have had the honor to become enrolled as a member of this society, we have had with us members of the profession who, at a great sacrifice of time and inconvenience to themselves have travelled many miles for the purpose of attending and assisting us at these meetings. Last year we had with us our old friend Dr. C. N. Johnson, of Chicago, a man who has long since endeared himself to the heart of every member of this society. Amongst others we have had in the past the celebrated and skilful surgeon, Dr. Black; and I am pleased this evening to see present Dr. Peeso and Dr. Westerberg from far-off Sweden, also Dr. Burkhart and Dr. Jackson. We are also pleased to have with us this evening the gentleman to whom you have listened, a gentleman who has been justly described as one of the ablest and most influential speakers in the Legislative Assembly. I think, gentlemen, it is a duty of every dentist to take an active part in politics. In a country like this, where the people are the government and the conditions under which we exist are to a great extent of our own making, the dentist who fails to do his duty in this respect

is doing the worst kind of offence against himself, against his community and against the profession. I would further like to say a few words not particularly along the line of the great temperance movement, although I have been twitted as hailing from a Local Option town, but with regard to legislation in the interest of the dental cause. If the present party in power do their duty they will preserve the rights and privileges of the dental profession, and thereby protect the public from incompetent practitioners. The late lamented Liberal Government has possibly not done its duty in this respect. It has been the habit to pass special Acts of Parliament permitting certain persons who had not previously passed the preliminary examination to come up for the final examination, which practice is not in accordance with the Act with respect to dentistry. I may say I believe at the last session of Parliament there were certain members of the House who introduced a bill providing that a certain person who had repeatedly failed to pass the final examination be allowed to practice dentistry. I may say that I trust that the honorable gentleman who has addressed us this evening will act as a safeguard to prevent such unqualified persons from entering our ranks, and I am sure if he will do so he will receive the hearty sympathy and support of the Dental Association. (Applause.)

After the toast to Our Guests was drunk Dr. Peeso rose to respond, and all joined in singing "For They are Jolly Good Fellows."

DR. PEESO.—Mr. Toastmaster and fellow-members of our beloved profession,—I shall not occupy your time very long this evening, but I wish to thank you for the reception that you have given the visiting members from the United States. It is certainly a pleasure to be here. From what I have heard spoken of to-night, and from other sources, I understand it is only a few years ago when the membership of the association here in Ontario was only about 25; if you got that number together you were doing well. At the present time I believe there are something like 250, which is certainly very gratifying; it is also more than gratifying to see the class of men that are represented. I don't think anywhere you would find a body of men that are more representative of the best element in any profession than you will find here to-night. There is one thing in regard to the younger men that has gratified me intensely, and that is to see the tendency toward original research in matters pertaining to our profession. I think that this is largely due to the efforts of the older members, the example that has been set to the younger members of the profession by the older. We must certainly expect that our children will look to us for an example. We cannot deny our paternity; the young dentists have come from us and they look to us for an example and we are responsible to a large extent for the way in which they con-



duct themselves; and if they do not do as they ought it is our place to instruct them and bring them around to a proper realization of their duty as members of this profession. It is something the same as a little boy who came in to his father covered with mud, and he was in a sorry plight. The father looked at him and was disgusted, and he said: "Johnny, it is awful; don't you know you ought not to do that? You are nothing but a little pig? Do you know what a little pig is?" "Yes, sir," said the boy, "it is a hog's little baby." It was his duty to reform that boy and show him he must be something else besides a pig. It is something the same in the profession. There are some in the profession that will go astray, but it is the duty of the elders to show them their way. I wish again to thank you for the reception we have had and certainly we will be glad to see any of you at any time across the border. (Applause.)

DR. BURKHART.—Mr. Toastmaster and brethren, this evening as I sat down to the table and picked up the menu card I discovered the first thing on the card was soup. I also looked over this magnificent dining-room and I tried to figure how many men were sitting at the tables, and in a moment there came through the doorway and up through the hall a number of your nice Canadian lassies to serve us, and I said they are bringing the soup, and it put me in mind of a little story, which was this: A good bishop in the United States was in the habit of going South, spending a portion of each winter. He had among his parishioners a kindly old lady who took everything as a matter of fact that was said, and took it seriously. On his return from the South he called on her, and in the course of the conversation she said: "Bishop, I suppose you enjoyed your trip in the South?" He said, "I certainly did." She said, "What was it you saw there that struck you most forcibly?" He said, "I will tell you, my good woman, what struck me most forcibly was I saw cows eating oyster shells." "Is that so?" she said. "Yes," he replied. "And what effect had it on the cows?" "Why," he answered, "my good woman, it had the effect of the cows giving oyster soup." I wondered where the soup came from that was to supply this large gathering, and how many cows were employed to furnish the soup. (Applause.) Gentlemen, as I stand here to-night before you I can truly say:

"Turn backward, turn backward, oh, Time in thy flight  
And make me a boy again just for to-night."

Because I was but a mere boy on my first visit to this Canadian Province. Gentlemen, for a few minutes at least in spirit I am a boy again. I had just entered practice, twenty-one years old, and I spent several days here, and among the number of men I met was your honored Dean, Dr. Willmott, and a number of other dentists who were then in active practice in the city. I

believe of that number all have passed away except Dr. Willmott, and I want to say that it was with a good deal of satisfaction and pleasure that I grasped his hand to-day as I was introduced to him, and it brought back to me memories of the long ago. Thirty-three years, gentlemen, is quite a span in a man's life, and I have passed that, so that I am in my fifty-fourth year; and while I have arrived at that age my ambition and my energy in my professional work is, I believe as great to-day as it was thirty-three years ago. I believe, by reasons of consistent life and habits I have followed I have been enabled to take care of myself and continue in the work in which I am engaged, and I trust the ambition I possessed then and that I now possess will continue down the years as long as I shall be in practice. But as I saw Dr. Willmott and talked with him to-day it also put me in mind of a little story which runs something like this: In the memorable and fratricidal war with which the United States was engaged from 1861 to 1865, when even brothers fought against each other, there was upon the Union side a soldier who had passed through that war and in after years concluded he would take unto himself a partner for life, and as he came to that conclusion he suggested to her that when they went on their wedding trip he would take her to the very spot where he had fought for his country. "I was a brave soldier," said he, "and I want to tell you an act I did, and that was this. In the heat of battle I took a badly wounded companion, and carried him to a cottage that was near the battle-ground, and while I was wounded somewhat he was wounded more than I. I wonder whether that cottage stillstands, and I only hope it may be so." And he married and they started on their wedding trip, and they visited the battle-ground, and he pointed out various points of interest. He said: "Why, Mary, there is the very cottage where I nursed my companion. Let us go over there." He went there with his bride. They rapped on the door, and a colored woman came to the door, and he said, "My good woman, have you lived here sometime?" "I certainly have, sir," she said; "a good many years, I certainly have; I lived here during the war." "Well, now," said he, "do you remember a soldier bringing a companion into the house here?" "Yes, sir," she answered. "Do you remember," said he, "how I nursed him?" "Yes, sir," said she, "and is you the man?" "I am," he said. "Liza, Liza," she called, "come here and see your long-lost father." (Laughter.) Gentlemen, I felt to-day as I grasped the hand of Dr. Willmott in the City of Toronto that I held in my grasp the hand of a long-lost friend or acquaintance. I regret the absence and loss of other acquaintances I met at that time; but the lapse of time, you know, makes great changes in our ranks. One thing I have noticed, and that is this, that the magnificent body of men that sit before me, intelligent men, men who have been educated not only in your universities, your high schools, your colleges,

but in your every-day education you represent the best element of our country which you love so dearly; and it certainly is a pleasure on my part, and I know on the part of my friends across the border, to be with you here to-night. One thing I believe in the span of thirty-three years that I have observed is this, the narrow minds which existed in the profession years ago, and practiced at that time, the bickerings and backbitings they indulged in, are scenes and acts of the past, and are surely passing away. I believe the younger element that is here, the younger element of dentists throughout the United States, are more liberal and fair and honest towards each other than the men of long ago, and that is a step in advance in education. (Hear, hear and applause.) They are not hitting each other back and forth, and giving each other "Jessie," or giving each other something else as a fellow would sometimes say, which reminds me of an English clergyman who was fond of a particular brand of hot pickle, and carried a bottle with him, and wherever he went this was set on the table. In his travels he set the bottle on the table one day and a gentleman came in and took a seat at the table. He said, "Will you kindly pass me those pickles?" It tickled the clergyman, and he did as directed. This man had a strong Yankee accent. In a moment the clergyman had the satisfaction of seeing the effects of the pickles. The Yankee said to the clergyman, "I believe you are a preacher, I should say?" "Well, yes I am." "Do you preach?" "I do, sometimes two or three times a week." "Do you preach to your congregation of hell?" "Well, yes, I am called upon to preach to them, and sometimes remind them of future punishment." "I should say so, but you are the first fellow I ever found that carried his samples around with him." (Laughter.) Years ago there was too much of that hot stuff, hell, so to speak, dealt out by the profession, that spirit is surely passing away. I admire the splendid speaking which we have heard this evening, and I admire the patriotism of the Canadians, and I wouldn't give a flip for a man that didn't love the country in which he lived, and it matters not under which flag he sails. (Hear, hear.) Let him be true and loyal to that country, it is his duty. But for all that there are common sentiments and links in life and ties of family and nations which should unite them, however, upon greater and surer planes. And those planes are these: That your magnificent country, of which so much has been said this evening, and the glorious country in which I and my associates live, will never again be called together in the arms of war or clash; not only these two nations, but I hope the time has come when war will cease and common sense and humanity will rule and make men better, and do away with the clash of war and carnage of battle. (Hear, hear and applause.) And that rings me down to this thought; I cannot believe as some men do that the people of this country or the world over

have made no advance. They certainly have. I cannot believe that the intellectual power and capacity of men and women is just where it was one hundred years ago. I believe it is higher, and that each advancing generation will become greater intellectually. Therefore, while you as a nation and the United States of America point back to a hundred years or more ago, and even in nearer times to bright and intellectual men and women, there is one thing, neither nation is going backward; we are going forward, and the dental profession in Canada and in the United States must perform its part in this ever-advancing movement. I give as my private individual opinion that dental education should be more broad, coupled with genuine fraternity. Along the thoughts which I expressed a moment ago is this: I do not for one moment believe that the ability and the learning of the men in the United States is such that they can say, we are the only ones. Neither can the Canadians say that. We brothers are on a common level so far as education is concerned. We should come to that point where coupled with true, fair legislation and liberal fundamental education, even though it be not of the highest, there should be no barrier when a student passes his examination in your college, which is honored throughout the length and breadth not only of your country but also in the United States, and when a man thus obtains his dental education, and in addition passes his State Board, he should not be debarred from stepping across the border or into the next State and practice there if he sees fit. The instructors who are in charge of the different colleges in the United States and in your country are performing a work which is certainly commendable. You are not going back, as was evidenced to-day to me by the splendid specimens that were exhibited as the results of these experiments. Those experiments are of great value to the profession in the United States and Canada. Therefore with your splendid corps of instructors there is no reason why you need be ashamed or feel that you are at a standstill. Speaking of the corps of instructors it brings to mind one little incident, and that is this: In a country town in New York State a certain man was elected on the Board of Education for a particular purpose, because in that town the principal who had been engaged as the head of the High School was addicted to drink, and an effort had been made to get him out. A man by the name of Waterman was elected, and he determined to visit the principal. Waterman lacked education, but he had money and courage, and finally it was said to Mr. Adams, the principal, "If you don't behave we shall have to expel you," and, to make a long story short, he got on a drunk and he didn't come to the school on the following Monday morning, and two of the members of the board came to the school, Judge Mason and Mr. Waterman. Judge Mason made a very conciliatory speech. He said, "Teachers and pupils,

I am sorry this thing has taken place, but I think it is best to retain Mr. Adams until the Easter vacation, and in the meantime we will secure a new principal." Mr. Waterman was very nervous, and as soon as Mr. Mason sat down, he said, "Teachers and scholars, I do not believe a thing of that kind. If you big boys and girls don't behave yourselves we will dispel every one of you. You have got the best corpse of teachers in the State of New York. You can get along all right." Some one later on told Mr. Waterman he had made a mistake, and should have said corps and not corpse. A few weeks after this incident a Mr. Rice died in that town and Judge Mason and Mr. Waterman attended the funeral. Mr. Waterman with his plug hat on his arm and with stately step walked through the room where the remains lay, and then came out and said to Judge Mason, "Did you see Mr. Rice in the coffin?" And he answered, "No, I never like to see the remains of a dead friend." "Well," said Mr. Waterman, "you should have gone through there. That is the finest corps I have ever looked at." "See here, Waterman," said the Judge, "you mean corpse." "No," said Mr. Waterman, "not by a long sight. I got fooled on that once. You can't fool me again." Gentlemen, the corps of teachers you have here—you haven't got a corpse—certainly will accomplish for your students and for the good of your people, I believe, all that has been pictured by the eloquent speakers who have preceded me, and who so loyally represent their government and their country. Men differ in belief as to government, and it is not for me at this late hour to discuss it. We all differ on that, but on one principle I believe we can get together, and that is on the principle of education. (Hear, hear.) But again I say, let us be true as professional men to each other; we have exchanged our thoughts and ideas and I hope the time will come when the thoughts which I have expressed relative to more liberal laws, which I believe to be true and fair, will be carried out. I thank you, gentlemen, for the kindness and courtesy which have been extended to me, and I know I voice the sentiments of my brethren from across the border who are here to-night. I know they have had a good time; I know I have had a good time, a jolly good time, and I promise you, gentlemen, if life and health are spared me I will not wait thirty-three years before I come back to Toronto. (Applause.)

DR. JACKSON.—Mr. Chairman and gentlemen, I feel like calling you brothers. I wish I might have something that was sentimental or something that was of real genuine worth to say to you, but I must say, after listening to the eloquence we have listened to, and to the remarks of our friends from over the border, I should not detain you. I have not any good stories that would compete with those that have been told, and I have had such a genuinely good time I want to thank you for the

courtesies shown to me. I am very sure I will try to get back another time and I will try to respond a little more fully.

DR. SMITH.—We were led to believe by the Programme Committee the feature of this evening's entertainment would be an address delivered by one of the members of the Legislative Assembly who, we were told, had a deserved reputation as being one of the ablest and most fluent speakers in that Assembly. I think, after having listened to the eloquent address of Mr. Downey to-night you will all agree that the Programme Committee were very modest in the description they gave of that gentleman as to his abilities as a speaker. I do not propose to take up any time in trying to state how much I have appreciated his remarks. They certainly have borne out the brilliant reputation which he has gained throughout the Province of Ontario as an eloquent speaker, but I think I will be following out the idea of every member of the profession here to-night if I desire to move that you, sir, as the President of this Association, do tender to Mr. Downey a vote of thanks in expression of our great appreciation for the eloquent address he has given us to-night. (Applause.)

DR. READE.—I have no hesitancy in saying that we all have been delighted with the oratorical treat Mr. Downey has given us this night; but there is more that has pleased us, and that is the sound common sense that accompanied his eloquence. (Hear, hear.) I know for my part, and I feel sure I can speak for all the others here, that we did know and believe that we had a country of which we could be proud, and we are proud of it, but at the same time it is very gratifying to have those convictions confirmed in so able and pleasant a manner. Henrich Heine, one of the greatest of German lyrical poets, begins a little book, "The Travel Sketches," with this sentence: "I am the politest man in the world." He then proceeds to point out that worldly wisdom admonishes us not to be ungracious when we chance to meet an individual who opens a general European conversation with these words, "It is lovely weather to-day," but with truly Christian patience reply, "It is lovely weather to-day." For if we do not reply politely, one never knows when one may meet this Philistine again, and be made to pay dearly for not having replied, "It is lovely weather to-day." "Alas, poor soul, it may even happen that you lie in a graveyard by the side of that Philistine, and at the day of judgment you hear the blast of the trumpet, and say to your neighbor, 'Good friend, stretch out your hand to me, I pray you, so that I may stand up, for my left leg has gone to sleep with having lain in one position for so con-foundedly long a time.' Then suddenly you recognize the well-known Philistine chuckle and hear his mocking voice, 'It is lovely weather to-day.'" Now, the application is this, that I do not apply the term Philistine to Mr. Downey, and that I do

not second the motion because "I am the poliest man in the world," and because it is the general custom to do so, just as it is to reply, "It is lovely weather to-day." But I have much pleasure in seconding the motion of Dr. Smith, because it was a delight and pleasure to listen to Mr. Downey's discourse to-night. (Applause.)

TOASTMASTER.—You have heard the motion, moved by Dr. Smith, seconded by Dr. Reade. Will you signify in the usual manner? (Loud cheers.) Mr. Downey, it affords me great pleasure to present the hearty vote of thanks of this audience for the excellent address you have given us. I think you have inspired our profession, and I trust you will be able at some time to do something, and have you do something for us also.

MR. DOWNEY.—Mr. Chairman and gentlemen, all I can say to you is that if my coming here involved any physical labor at all, or any sacrifice at all—which it did not—I would be more than a thousand times requited by the enjoyment that has been afforded me in taking part in this very enjoyable gathering. I may tell you in all sincerity that whatever I can do whenever the day comes that I can be of any help to you in making and upholding the splendid position that your profession to-day occupies in this Province of Ontario, and in this Dominion, and on this Continent of North America, by legislation or otherwise, certainly all you have to do is to invite me to join you in the work. (Applause.)

TOASTMASTER.—This brings to a close our toast list, and as presiding officer I must thank you for your kind attention to me as President of this Convention, and I feel sure that I shall go home benefited by having attended not only the afternoon but having attended this banquet, and I can safely say that the strongest feeling I have now is that I shall never miss a banquet to the society again if possible.

After singing the National Anthem the gathering dispersed.

# Dominion Dental Journal

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## THE LATE DR. J. R. MITCHELL, PERTH, ONT.

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In the April number of the DOMINION DENTAL JOURNAL appeared a cut of the late Dr. J. R. Mitchell, of Perth, Ont. This cut was prepared for the proceedings of the Ontario Dental Society, of which he was president last year.

Dr. Mitchell died at the Royal Victoria Hospital, Montreal, where he had been taken to undergo an operation for appendicitis. His illness lasted only four days.

The dental profession of Ontario loses in the death of Dr. Mitchell one of its brightest and most useful members. His address before the Ontario Dental Society, March 13th, 1906, will stand as a creditable effort to his memory. It will be a stimulus to the profession. No dentist in Ontario should fail to read what the *Perth Courier* says of the career of Dr. Mitchell. A man only 37 years of age, and not 12 years in his town, who can gain for himself a position of such prominence, must have the ideas of true citizenship within him. Such men are a credit to dentistry, and if more young men would take part in such matters, there would be a readier acknowledgment of the abilities of the dentist.

Dr. John Robert Mitchell was born in the Township of North



Gower, near to the Village of Manotick, about 37 years ago, son of the late Henry Mitchell. His early youth was spent in his natal place, and in 1887 or 1888 he came to Perth to finish his education at the Collegiate here, with Fred Wilson, a chum. Graduating from this institution, he taught school in Manotick for a year or so, and then commenced the study of dentistry with Dr. Robertson, in Ottawa. He attended the Dental College, in Toronto, and on the 30th March, 1894, graduated from the University of Toronto and Royal College of Dental Surgeons. He returned to Perth, and entered into partnership with Dr. S. C. Wilson, which article of agreement was continued for eight years, when by mutual consent it was dissolved. They were located in the Butler Block for six years, and in the Drennan Block for five years (separately three years of this period), and in January last deceased admitted his nephew, Dr. O. N. Leslie, to practice, and opened their office over Hall's drug store. Dr. Mitchell enjoyed a large clientele and lucrative practice.

In 1892 deceased married Jeanette, daughter of Mr. and Mrs. Andrew McArthur, and she, with four children, survive. Besides his widowed mother, two brothers and two sisters survive: They are: Thomas, Roland, Man.; William H. and Miss Sarah, on the homestead, near Manotick, and Mrs. Evans, of Winnipeg. His nephew, Dr. Leslie, lived with him.

Dr. Mitchell was a foremost citizen of Perth, and his place will be hard to fill. He was connected with every interest that was advanced for the welfare of the town he called his home. He could always be depended upon to do his duty, and when a bona-fide issue was launched for the interests of the municipality or its citizens, deceased could be counted upon to give an intelligent and effective support. Since he was elected to Council he worked shoulder to shoulder with his colleagues of advancement for the carrying of the sewer, electric light, Winn, Wampole and Carnegie Library by-laws, every one of which was successful at the polls by overwhelming majorities. He sat in Council for six years, being first elected in 1901. His merit and ability were promptly recognized, and at each election his municipal work was strongly endorsed by the electorate. Chairmanships of committees were his, and in 1904, 1905 and 1906 he was the executive head of the committee that was charged with the construction of the sewer system in Perth. And in 1905 and this year he was elected chairman of the Finance Committee. Dr. Mitchell was the ablest man on the floor of the present Council, and it will be hard to choose a man to fill his position.

On the 6th of April, instant, he was honored with the confidence of the Board of Education in being chosen one of their three nominees on the first Board of Management of Perth's premier Free Public Library, and, by a strange decree of fate, the first organization meeting of this board was to be the last appearance of deceased at a public gathering. This was last

Wednesday night, and when the meeting was over, the doctor left to attend another meeting in the Town Hall, called for the organization of a social club. However, this meeting had adjourned before he arrived, and he walked up town with some of those whom he met coming away. Dr. Mitchell was slated for the Mayor's chair for 1907.

The business houses of the town are closed from two to four o'clock in respect of our deceased townsman.—*Perth Courier*.

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### AMENDMENT TO THE ACT RESPECTING DENTISTRY IN THE PROVINCE OF NEW BRUNSWICK.

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The following is the Bill passed at the last session of the Legislature, in amendment to the Act respecting Dentistry, in the Province of New Brunswick. While this Bill seems to a layman to be very obscure and unnecessarily ambiguous, it would seem that it aims to provide for a standard of matriculation of that of the New Brunswick University, or its equivalent. Or that provided in Section 20, which is away below university standard. Then open four ways of admission to practise: (a) Enter as a student of dentistry, study or do odd chores round a dental office for three years, and write on the examination set by the Board. This is certainly going backwards, and places all such licentiates outside of any recognition by the Dominion Dental Council, or any other Province. Section (b) allows the entered student to attend college during three years, and pass the Board examination to obtain a license. No licentiate entering practice by this plan has any rights before the D.D.C., because a three-year course is not accepted. Section (c). Those entered under this section must first have a license in another Province when the standard is not lower than that of New Brunswick (which does not exist), and that the Province from which he comes must accept New Brunswick licentiates. A Dominion certificate will be accepted as evidence of registration in another Province, and also of good standard. In the first place, a candidate for registration may hold a Dominion certificate, and not have a license to practise anywhere. In such case all that part of the section referring to interchanging license has no value. In the next place, no Province with a decent standard is going to accept New Brunswick licentiates who enter under Sections (a) and (b), or the low matriculation of Section 20. Such being so, there can be no registration of candidates from other Provinces, and New Brunswick is outside of Dominion registration. Section (d) is unworkable, and means nothing. All it does provide for is the granting of a license to practise entered on their register as students, and who have complied with the regulations of the

D.D.C. In another section it is provided that the applicant, even though he hold a D.D.C. certificate, must be resident in the Province three months prior to his application for registration. All together, the intention seems to be to keep out everybody who is not a native of the Province, and at the same time obtain for their own students the advantages of the whole Dominion. If this be the proper interpretation of the Bill, it makes New Brunswick as one of the smallest and most selfish and provincial communities in Canada—makes a low standard of its own, and then aims to haul others down to it, and at the same time makes it almost impossible for a well-educated man outside of New Brunswick to enter. The New Brunswick Dental Society is the weakest organization in dentistry, if it cannot awaken a national spirit in its Legislature. A Legislature that has not yet noticed the growth of Canada and all its institutions, should have a helping hand from some one. The New Brunswick Dental Society could not do better than gather up the records of progress in education and nationalization in all the Provinces of Canada and present them in a neat volume to the legislators. They might not read it, but its size would awe them.

AN ACT TO AMEND CHAPTER 75, OF THE CONSOLIDATED  
STATUTES, 1903, RESPECTING THE REGISTRATION  
AND QUALIFICATION OF DENTISTS.

*Passed 22nd March, 1906.*

Be it enacted by the Lieutenant-Governor and Legislative Assembly, as follows:

1. Sub-sections 1, 2, 3, and 4, of Section 25, of the said The New Brunswick Dental Act are hereby repealed, and the following substituted in lieu thereof:

"(1.) That he is the full age of twenty-one years;

"(2.) That he has given three months' notice in writing of his intention to make application for registry;

"(3.) That he has resided continuously within the Province during such period of three months (but the attendance of a resident of this Province who is pursuing his study of Dentistry abroad at any Dental College or School of good standing, approved by the National Association of Dental Faculties, and requiring for graduation an attendance of at least three school years of nine months, or four school years of seven months each, shall not for the purpose of this section be deemed a resident out of the Province).

"(4.) Either

"(a) That he has pursued his studies in Dentistry for a period of three years after being entered as a student as herein-before mentioned, and has passed an examination before the Board of Examiners mentioned in Section 20; or,

"(b) That he has pursued his study in Dentistry for a period of three years after being entered as a student, as heretofore mentioned, and having passed an examination before a Board of Examiners, mentioned in Section 20, or the matriculation examination of the Provincial University of New Brunswick, or its equivalent, and that he has fulfilled all the requirements of graduation in some such Dental School or College as aforesaid, and has received a degree therefrom and has passed an examination before said Board of Examiners in subjects prescribed by the Council of the said New Brunswick Dental Society ; or,

"(c) That he was practising Dentistry in the Province prior to the 23rd day of August, A.D. 1890, and has since that time (except while he may have been attending such Dental College or School as aforesaid) continued regularly to practise as a Dentist or Dental Surgeon in this Province.

"(d) That he has been registered or admitted or licensed to practise as a Dentist or Dental Surgeon in any other Province of Canada in which the standard for admission is equal to that required for admission in this Province, and in which persons registered under this Act are by the laws of that Province permitted to be registered or admitted or licensed to practise there, provided that a certificate from the Dominion Dental Council shall, if the said Council of New Brunswick think proper to receive the same, be evidence of such registration, license or admission in such other Province, and qualify of such standard."

2. The Registrar shall give to any persons entitled to be registered, a certificate which shall state under which one or more of the foregoing clauses or Sub-section (4), such persons have qualified for registry.

3. Section 26 of the said Act is hereby amended by striking out the words, "within thirty days," in line six thereof.

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### PASSED SENIOR EXAMINATIONS.

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The following is a list of the Senior Class of the R.C.D.S. who have successfully passed their final examination. They are arranged in order of merit:

Class 1.—S. W. Bradley, E. C. Jones, G. B. New, W. J. Price, J. W. Clay, E. H. Wilson, G. M. Garrell.

Class 2.—F. A. Fallis, G. F. Roulston, F. A. Axon, C. Pritchard, E. Kelly, W. R. Glover, M. A. Day, A. V. Lester, G. B. Tovell, F. A. French, W. C. Smith, D. W. Massey, E. A. Wessels, W. H. Doherty, F. C. Becker, W. H. Reid, H. L. Watt, W. H. Geddes, G. Wilson, J. A. Beatty, E. E. Bruce, A. R. Shapells, Margaret Gordon, J. T. Hackett, A. R. Jordan.

Class 3.—H. A. McKim, N. S. Coyne, A. S. Elliott, E. A. Grant, C. B. Stover, C. A. Mills, R. McGill, H. W. Baker, J. A. Bothwell, H. M. Reid, E. B. Sparks, F. L. Heath, B. W. Linscott, J. E. Middleton, J. M. Deans, L. T. G. Smith.

### DR. PATTERSON'S RETIREMENT.

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We regret to learn of the retirement of Dr. J. D. Patterson from the editorship of the *Western Dental Journal*. There are few men in dentistry who have the courage of their convictions in so marked a degree as Dr. Patterson. He resigned because the publishers refused to give him absolute control of the matter published. Such a position is the only reasonable one open to a man of Dr. Patterson's capabilities.

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### ELECTION BALLOT FOR TORONTO DENTAL SOCIETY FOR 1906-1907.

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Hon. President—Dr. W. G. L. Spaulding. President—Dr. W. M. Wunder. First Vice-President—Dr. J. Loftus. Second Vice-President—Dr. W. E. Cummer. Secretary—Dr. C. G. Scott. Treasurer—Dr. J. E. Black. Press Editor—Dr. A. E. Webster. Archivist—Dr. R. C. McLean. Councillors—Dr. J. F. Adams, Dr. H. T. Eaton. Membership and Ethics—Dr. R. G. McLaughlin, Dr. W. E. Willmott, Dr. J. McDonagh. Dinner—Dr. E. C. Abbott, Dr. W. C. Trotter, Dr. C. A. Kennedy.

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THE S. B. Chandler Dental Depot Company has changed its name to "The International Dental Manufacturing Company, Limited." The reason given for the change is an expansion of business to the United States.

THE first examination held by the Dominion Dental Council will take place in Winnipeg, Toronto and Halifax, June 5th to 13th, 1906. There will be between ten and fifteen candidates. This is the highest dental standard known, and the candidate who obtains a certificate has a just reason for offering his services to the public.

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### FOR SALE.

Harvard Case Dental Chair. In good working condition. All the ordinary movements. A few dollars to upholster would almost renew. Price, f.o.b., \$75.00 (being half original price). Also McLaren Gasometer, in good working condition; decent in appearance, though paint is chipped off somewhat for lower 8 or 10 inches. Does not include yoke, inhaler, tubing nor cylinder. Price, \$12.00 (being about one-third original price). Also one Justi Wall Bracket (some of the teeth of ratchet wheel broken, otherwise in good condition. Price, \$8.00, original price \$20.00. Also Plain Table for above (4 drawers). Price, \$1.00. Box X, Dominion Dental Journal.

# Dominion Dental Journal

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## Original Communications

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### ADVANTAGES AND DISADVANTAGES OF FIXED AND REMOVABLE BRIDGE WORK, AND WHY THE LATTER IS SUPERIOR TO FIXED WORK.

BY FRED. A. PEESO, PHILADELPHIA.

Read before Ontario Dental Society.

*Mr. President and Fellow Students in the Dental Profession.*—In responding to the invitation to speak on the subject of crown and bridge work before this society I feel that I really am not capable of doing the subject justice. The subject of crown and bridge work is a deep one, and I think there are few of us that really understand how much it means. Now, I am going to make a statement that probably some will dispute, especially some orthodontists, or other specialists; but I will state that crown and bridge work is the most important subject taught in our schools to-day, or which we have to consider. The reason for this is that there is so much harm done by the improper use, by the abuse, of crown and bridge work. I do not think that I am at all out of the way in stating that fully eighty per cent., and I think a much greater percentage than that, of the bridge work that is put in the mouth is really a detriment rather than a benefit to the patient. I think that the old practitioners, or even the younger ones, that have seen a great deal of this work as it is done in a great many instances, will bear me out in making this statement. In the first place, the prosthetic part of the work is done in such a way that spaces are left so that particles of food stuffs accumulate, the pieces become very foul, and from a sanitary point of view it is a failure. There are many things that have to be considered in putting in a perfectly satisfactory and useful piece of

bridge work; many things that are frequently entirely ignored. You take the articulation of the bridge; there are many times that no attention at all is given to it. The piece is put in the mouth, and if it touches at a few points it is considered all right and cemented into place. A piece that is properly articulated will give far better service, and be of much greater benefit to the patient than one that is poorly articulated. The occlusion must be correct if you are to get the best results from a bridge. In nearly every case you will find that where teeth in one jaw, especially molars or bicuspsids, have been lost, the occluding teeth in the opposite jaw have elongated so as to project for perhaps an eighth of an inch or more into the space where the teeth have been lost. Now, if the occlusion is not corrected in a case like this a bridge will be of no practical benefit to the patient; the triturating movement so necessary in perfect mastication is lost, and the moment the chin is thrust forward the jaws are thrown apart, there being but one point of contact (as in Fig. 1), while the only movement possible is



FIG. 1.



FIG. 2

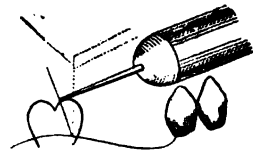


FIG. 3

simply the opening and closing of the jaws. A second, and the principal cause of unsatisfactory bridge work, is the improper, or non-preparation of the teeth and roots. It does not make any difference how carefully or how perfectly the prosthetic work may be done, if the teeth and roots are not properly prepared for the reception of the work it will be a failure. In preparing any of the teeth for the reception of a crown or a bridge, they must be so prepared that there will be no gingival irritation from the band impinging on the gum. I think you will find in the majority of cases that in the preparation of a tooth, if it is a single crown, only enough of the tooth structure has been taken away to allow of the passing of the band between it and the adjoining tooth, so that the band when passed over the tooth cuts into the gum, setting up an irritation which will eventually result in the loss of the tooth. I had an instance of that kind in mind; a very marked illustration of how quickly such an irritation may cause the loss of teeth. In the spring, a couple of years ago, a patient came to have a bridge placed from the lower right second molar to the first bicuspid. He was going to leave the city for a few months, and as there was not time to complete the operation he concluded to wait until fall. The tooth was perfectly firm, and

would have served as an excellent abutment for a bridge. The crown was slightly broken down, and while away he thought he would have a crown put over it to save it. When he returned to the city, but three or four months later, the tooth was utterly ruined. The band had cut into the gum for nearly an eighth of an inch, and the tooth was simply floating in pus, and was easily removed with the thumb and finger. Now, as I have said, if a bridge is to be satisfactory, the teeth must be prepared so that the bands when they pass under the free margin of gum will hug the neck of the tooth tightly, and cause no gingival irritation. Now, in some cases it is very hard to do this. It may seem simple to speak of the proper preparation of a tooth or the root; but it is not so simple, and in order to prepare it as it should be prepared you must have suitable instruments and sufficient time to do it. In many cases, especially in the back part of the mouth where the teeth are difficult of access, it may take an hour, or even more, to prepare one properly; but as a general rule I think you will find that not more than fifteen or twenty minutes are given to the operation. It is impossible to properly prepare the tooth in that time. For example, take the preparation of a lower molar as an abutment for a bridge, where the bicuspid and first molar, say, have been lost. At this point there is another thing that I will speak of before considering the preparation, and that is that in many instances it is necessary, or best to call in the services of an orthodontist before going on with this work. In the majority of cases where the first molar has been removed, or the first molar and bicuspid, the second molar is tipped forward so that the only point of contact is one of the distal cusps with the upper. In many cases you will find it is better, before undertaking to crown this tooth, to force it back to its normal position. I know that it is claimed by some that the molars in the lower jaw cannot be moved posteriorly to any appreciable extent, but it has been done, and I have seen it done in a number of cases. Now, in order to prepare those teeth, enough of the tooth structure must be taken away so that the sides are parallel, or the tooth is slightly larger at the neck, about one-sixteenth of an inch under the gum line. The tooth should be prepared in a way so that when the band of the crown is passed over it will hug the neck of the tooth at this point. (Fig. 2.) If it is not trimmed enough the band cuts into the gum, setting up an irritation, and a rough, jagged line of cement will complete the work. In preparing these teeth it is necessary to have suitable instruments. It is not possible to trim them with a straight disk and bring them parallel with an anterior abutment, as, in order to get below the gum line on the mesial side, it would necessitate cutting far back to the centre of the tooth (Fig. 3). For this purpose it is necessary to have a



saucer-shaped, or cupped disk, and, starting at the occlusal surface, cutting straight through, removing the bulk of the contour in one piece (Fig. 3), cutting well under the gum. There are diamond discs made in that shape, I believe, that will do the work very nicely. The same wheel can be used in cutting down the distal side of the tooth. The sides must be parallel, or just slightly larger at the neck, and must not be larger at the occlusal surface than it is under the gum line. The lower molar is one of the hardest teeth in the mouth to trim, but by using a saucer-shaped wheel you will do it easier than with any other instrument. A scaler, or an enamel cleaver is of very little use in trimming these teeth. Probably the most difficult point to reach in the lower molar is the mesio-lingual corner. That can be reached from the opposite side of the mouth with one of those wheels by rotating it from side to side. The bulk of the trimming in all cases of the lower molars will be on the mesio and distal surfaces—the buccal and lingual surfaces. You will find that the lower molars generally pitch in towards the tongue, so that the bulk of the trimming will be on the lingual side, there being very little, and at times nothing to be taken from the buccal side. The lingual surface can be ground with a thin, flat disc, reaching in from the side on which the tooth is located. If you are working on a tooth on the left side of the mouth, stand on the left side of the patient; if it is on the right side, stand at the right of the patient; you can do it better from that side on which the tooth to be trimmed is located. By using an inverted cone you can reach down on either side, using the explorer frequently, and just as long as you feel that there is the least bit of a ledge keep cutting until the instruments will pass along the side of the tooth and not impinge on the gum. On the buccal side it can be done in the same way. There is one thing we ought to do if we are going to do good work, especially if we have a great deal of it to do, and that is to make a careful study of the shapes of the teeth and roots which we will be called upon to prepare. Take the lower molar. Before it is trimmed it is oblong, looking down on the occlusal surface. After it has been trimmed you will find it is nearly in the form of a square, being nearly flat across on the mesial side, and more rounded on the distal side. Occasionally you find a depression in a mesial face. That is very nearly the shape of a lower molar after it has been trimmed, this mesial root being broader and somewhat depressed, but rounded on the distal side. You will find that this shape seldom varies, even in the third molars. Of course, the third molars are more uncertain and more subject to variation. In the upper molars the shape is entirely different. You will find a somewhat triangular shape, the mesio-buccal root being more prominent, and the distal root setting somewhat

further inside the arch, and the both being smaller on the palatal side owing to there being but one palatal root. This shape very seldom varies. Occasionally you find a depression on either of the three sides where the roots tend to bifurcate. Then occasionally you will find that the palatal root is as large, or even larger than the two buccal roots; but that is an abnormal condition. Now, it is an excellent plan, for the younger men especially, to take a number of teeth, cut them off just below the gum line, trim them up, and study those shapes. Do not confine yourself to one of a kind, but take a good many of them and study them carefully. It will help you very materially in the preparation of the teeth if you know just exactly what to look for; and then if there is any variation in the shape, of course, you can detect it with the explorer. In fact, the shapes of the roots of all the teeth in the mouth are more or less oval if they are properly trimmed. In all of the teeth you will find that they are broader on the buccal sides than the palatal. In the upper, the canines and laterals are nearly true ovals. The centrals, while having the same general form, are very distinctive. You will find that they are triangular, being nearly flat on the labial and mesial sides, but more rounded on the distal, and more prominent towards the median line. At the same time you will find there



FIG. 4.



FIG. 5.

is a triangular space between the two centrals. (Fig. 4.) With the third molar, as in the lower, it is more subject to irritation. When we come to the teeth in the lower jaw, the teeth anterior to the molars partake of the same general shape as the upper, except that they are shorter bucco-lingually. The bicuspid are true ovals, as are the canines, but the latter may be flat, or even slightly depressed on the mesial and distal sides. The centrals and laterals are very much the shape of the bicuspid in the upper in miniature. The one important thing in preparing the roots is to have the shape of the root in mind, and know just exactly what it ought to be when the tooth is entirely trimmed for the reception of the band. I think that nearly every failure in crown and bridge work can be traced to this improper preparation of the teeth and roots. In regard to the devitalizing of teeth intended for crowning, in most cases I think you will find it is necessary. Where a lower molar or the bicuspid have been removed we have this condition (Fig. 5): the tooth leaning far forward. In order to make it

parallel with the anterior abutment it is necessary to cut far back to the centre of the tooth. In a case of that kind it would be absolutely necessary to devitalize the tooth before crowning, because you could not trim it without cutting into the pulp chamber; and even if the pulp has receded, it could not be done without giving excruciating pain to the patient, which would be altogether unnecessary. I am speaking now from personal experience in regard to the devitalizing of teeth. I have found that in the past eighteen years—of course, that is only a short time as compared with the time that some of you have been practicing—it has been my experience that a devitalized tooth will do its work in supporting or helping to support a bridge just as well as one in which the pulp is vital, and in many cases even better. The irritation which is necessarily produced by placing a crown over a vital tooth is very apt eventually to lead to the destruction of the pulp, and in many cases you will find that there will be a formation of pulp stones caused by this irritation. I have seen many of these cases where the bridges have been in the mouth for a number of years, and on opening the teeth, found from one to several pulp stones. I think it is better to devitalize in nearly every case where you are going



FIG. 6.



FIG. 7.

to put a shell crown, for the reasons stated, as the band must hug the neck of the tooth tightly; and in order to effect this it is necessary to cut away a large part of the tooth structure. To speak further of tooth preparation, take a case where the tooth leans very much forward, as already stated, you will find that the bulk of the trimming will be on the mesial side of the tooth. It will have to extend one-sixteenth of an inch under the gum, and in this case should go further than where the tooth stands in a perfectly normal position, because if the band happens to be a little bit long it will extend below the cut face of the tooth, and you will have the edge of the band cutting into the tissues. (Fig. 6.) On the distal side of this there would be nothing to take off, as a general thing, because your band would pass down over the edge of the enamel and strike the root at this point, as in Fig. 7.

#### FIXED AND REMOVABLE BRIDGE WORK.

Now, in regard to fixed and movable bridge work, as I stated at the beginning, one great objection to bridge work has been that it is unsanitary, to say the least. It is impossible to

take anything into the mouth which will thoroughly cleanse and sterilize a bridge without its injuring the soft tissues. Now, with a removable piece that is properly made—and the value of the removable work depends entirely on the almost absolute accuracy with which the work is done—is that it can be taken from the mouth, sterilized in boiling water, or anything that the operator or patient may see fit to use, and then be replaced. The abutments in the mouth after the bridge is removed are perfectly smooth and easy of access, and these can be thoroughly and easily cleaned when the whole bridge cannot be. That is one very distinct advantage in favor of removable work. As I said before, unless the fittings are nearly absolutely perfect, removable work is not a success; but I am speaking of the work being done as it should be done. Another point in its favor is the ease with which it can be repaired in case of accident or injury. You all know what a trouble it is to repair a bridge which is fixed in the mouth, especially in the back of the mouth. A removable piece can be taken out in an instant, sent back to the laboratory, and the piece can be repaired with no pain or trouble to the patient. Another point in favor of removable bridge work is the ease with which any of the adjoining teeth may be fixed in case of accident or injury or natural decay. Any one who has undertaken to put in a gold filling in the surface of the tooth approximating an abutment of a fixed bridge will understand from their own experience just how difficult, and at times almost impossible it is to put in a decent filling at that point. It is hardly ever advisable to put in an amalgam filling in a place of that kind, or in a tooth adjoining a fixed crown; and it is next to impossible to put in a gold filling when you cannot put on a rubber dam and keep it dry. Another point to be considered in this work is, in case any of the abutment caps become loose, the ease with which it is detected and recemented. Take a fixed bridge where there are a number of abutments, it may be that one of the abutment caps will come loose, perhaps because it is not properly cemented, or a little shred of cotton or something of that kind may have been overlooked when it was cemented; the moisture being continually carried in will eventually cause decay. I had an illustration of that a short time ago, where a piece was completely ruined. Now, where there are several abutments, one of the abutments may be partially or entirely ruined before the patient is aware that there is anything wrong with it. Take it in a case of a removable bridge, if one of the abutment caps becomes loose it will be instantly apparent as soon as the piece is taken from the mouth, and it can be readily cemented again. Another thing, in the case of the bridge where there are a large number of abutments it is almost impossible to cement them properly all at once. With a removable piece you can cement

part of them at a time. Of course, the edge of the inner cap should be waxed so that no cement will get between the attachments, and you can cement one or two or three of them at a time as you may see fit. I do not know that I have anything further to say at this time on this work. I consider it an honor to be asked to speak before your association; I thank you very kindly for the attention you have given me. (Applause.)

THE PRESIDENT.—Gentlemen, I am sure we are all delighted with the excellent discourse given by Dr. Peeso, who does not need any words of mine to introduce him to the dentists of Canada. We have all, with great thought and pleasure, read some of Dr. Peeso's papers that have been published in the American and Canadian journals, and we are very pleased to have him with us at this time, and I hope that his very excellent paper will provoke some discussion along the very important line of crown and bridge work, which forms such a great part of our profession. I will now call upon Dr. Thornton to open the discussion.

DR. A. W. THORNTON, Chatham.—Before opening the discussion I have a very pleasant duty to perform. Dr. Peeso has with him Dr. Westerburg, of Stockholm, Sweden, who has come over the water for his first visit, and I would move that the courtesies of the floor be extended to our friend Dr. Westerburg, of Stockholm. (Applause.)

DR. EATON.—I have much pleasure in seconding that motion.

The motion was carried amid applause.

THE PRESIDENT.—Dr. Westerburg, I present to you the spirit in which our Association receives you as a visitor at our convention.

DR. WESTERBURG.—I thank you, gentlemen. I do not know the language quite enough to make myself understood, but I have to thank you. (Applause.)

DR. THORNTON.—When I was asked to open the discussion on this paper it was on the condition that I should have the paper for some time before coming to the convention. Last week one of the gentlemen in charge of the program wrote me saying that Dr. Peeso was not going to read a paper, but was going to give a practical talk, using the blackboard pretty freely. I admire that kind of a talk myself, and as I have only to open the discussion I shall not trespass very long upon your time. Some years ago in the *Dental Cosmos* my eye caught an article headed "The A. B. C. of Crown and Bridge Work." I thought, "Well, that is just about my size, I can understand the A. B. C. of it anyway;" and I was delighted as I read that article, and as I read it and thought of it for some time I said to myself: "The writer of that article understands the basal principles of crown and bridge work; and those of you who

have read in the journals Dr. Peeso's articles on Crown and Bridge work must have been benefitted by that reading. Personally, I am delighted to welcome Dr. Peeso to the Ontario Dental Association. You know it is a kind of a usual thing, a functional thing, to say that we are glad and that we are delighted with a paper; but I think, putting conventionality aside, that before Dr. Peeso leaves the city of Toronto he will be convinced that his visit has been most profitable. Dr. Peeso's opening sentence almost was this: that crown and bridge work is probably the most important subject on the curriculum of our dental colleges. He can get up no controversy with me in regard to that statement. (Laughter.) I say to the students here, that notwithstanding the fact that a great deal of the practical crown and bridge work that is done is very faulty, notwithstanding all its faults, that to both patient and operator no work put in the mouth affords the same satisfaction as does crown and bridge work, even ordinarily well done. The objection, of course, was raised by Dr. Peeso that much of it is unsanitary. But I could raise the same objection to the natural teeth in the mouth, too. (Hear, hear.) You know that many mouths that present themselves for operation are anything but cleanly or sanitary; and my experience has been that if a person will take ordinary care to keep the natural organs clean, that ordinary bridge work may be kept equally clean. He said very truthfully that much of the fault of modern bridge work was due to faulty articulation. That is true, and yet I believe that it is being remedied very largely, due not so much to those who teach crown and bridge work as to the excellent training which the students are receiving in the carving of teeth. Those of us who graduated some years ago know how difficult it was for us to carve the articulation properly; but the students now, having spent almost the entire freshman year in carving every tooth in the mouth, know the different forms, and much of the carving of articulation now is a true anatomical reproduction of the natural organs, and the students have the advantages over those who graduated some years ago. (Hear, hear.) Dr. Peeso spoke of the difficulty in preparing roots to receive the abutments or the crowns, and, as he said, it is an easy matter to talk about it, but it is never an easy matter to do, as we all know. He talks about taking an hour to prepare the abutment, and some of us know that even in an hour we cannot make the perfect preparation that we would like to bring about; but a gentleman told me not very long ago that in thirteen minutes from the time a patient came into his office he prepared the root, made the crown, cemented it, and discharged his patient; both patient and operator perfectly happy. (Laughter.) Some time ago I spent a few days with Dr. J. L. Young, of Detroit, and Dr. Peeso drew your

attention to those diamond discs that are made concave on one side and convex on the other, and which are now almost universally used in the preparation of crowns to receive abutments. There was one difficulty with them, they would not remain perfectly true, they would buckle; but Dr. Young produced a kind of a plunger or punch, of this shape (illustrating on blackboard), making the exact contour of the diamond disc with a little spur that went into the hole which receives the screw, and by driving that into a piece of lead so as to make an exact counterpart for it, putting the diamond disc in there, spreading a piece of thin rubber over it and striking it once with a hammer, you would true the diamond disc, and in that way it always worked as well as when you buy it. I bought a set of those, and I will bring them down with me and let the students see the advantage of having this to keep their instruments perfectly true. Dr. Young, as many of you know (for he has been here, and is a Canadian), also brought into being another instrument for the preparation of crowns and roots, and that was a fissured burr, and that is now on the market, made both for a straight hand piece and for a right angle attachment, and it is, as it were, pointed, and in using that in removing the enamel from the periphery of the anterior tooth, simply by taking that you can follow it around and chip off the enamel in that way; or, when using it on the posterior teeth, by using the same instrument in a right angle you can keep the right angle perfectly parallel with the long axis of the tooth, and in that way reduce the crown sufficiently to receive the abutment as it should be received. There was one point of very great importance that Dr. Peeso touched, and I would like to call your attention to, and that was that leaning molar. Dr. Goslee, who is perhaps the most voluminous writer on crown and bridge work at the present time, says that in a case like that, where you have a perfectly good molar and you are going to put on a gold crown, he does not hesitate to say that it should always be devitalized. He says the same thing that Dr. Peeso says, that the embanding of that to put on the band or crown around it will produce death to the pulp. Dr. Evans, I think, says that he never saw the pulp die under a crown if the tooth was perfectly healthy before the tooth was crowned, and if the crown was sufficiently accurately made. If it were only a question of devitalizing, that would be an easy matter, indeed; but some of us Canadians have learned that the difficulty is not all over when the devitalizing has taken place. You will remember that at the meeting in Montreal there was a gentleman there who filled the roots perfectly, and the pictures appeared in one of the dental journals afterwards, and they were not all just perfectly filled; and you will recognize the fact that after you have devitalized those teeth it is a little bit

difficult to fill those roots perfectly. Personally, I will take chances on not devitalizing rather than devitalizing and run the risk of having an imperfectly filled root. (Applause.) There is perhaps not a man in this audience who has not had many experiences of this nature, that somebody has come to him wanting a tooth extracted, and he has said, "Well, I can save that tooth, I can make it a perfectly good tooth;" and after debating the question, and hesitation, you have finally extracted the tooth and said to yourself, "Well, thank the Lord I didn't try to fill the roots of that," when you found that all twisted up, absolutely impossible to fill properly. So I think the question is a debatable one, whether it is always wise to devitalize a tooth. Dr. Peeso spoke of movable bridge work. As you know, it has never presented a very great fascination for the dental profession. Dr. Peeso said, of course, that it must be perfectly made, and as he used that term my mind went back some years ago to the time when I was teaching school in Minnesota. There was an old Scotchman out there I boarded with, and while I am not Scotch I have a Scotch name, and he used to call me Sandy, and he used to say, "Sandy, whenever you see a perfect man you will find a little tuft of hair growing in the palm of his hand." (Great laughter.) I have shaken hands with most of you, and I have not found the tuft of hair yet. (Laughter.) It is an easy thing to talk about perfection of work, and there are some men who are mechanical geniuses. The man who put that chuck on the market for keeping the piece parallel, Dr. Griswold—I was a student in his office some years ago, and he is a mechanical genius; and perhaps Dr. Griswold and Dr. Peeso are sufficiently mechanical that they can do what an ordinary man cannot do; but to make a perfect piece of work, to keep the abutments parallel, to keep the parts that telescope absolutely parallel, is not always an easy matter. Then as you know they have some objections. One of the things that a patient always says to you is, "Will this thing be permanent, doctor? Can I take it out? Will it be just solid like my own teeth?" That is what they want. When they are eating taffy—because some men and women eat taffy—and the thing rises, it all gets twisted—(Laughter)—and there are words used sometimes that perhaps would not be well to use here. That is one of the objections to movable bridge work, and there are others. Of the facings that are being made, teeth were put on the market here a short time ago by Brewster (where they keep bicuspid and molars, illustrating), where there is no necessity at all of putting them through the fire, and that removes the objection and difficulty of replacing one after it has been broken in the mouth. I am not advertising Dr. Brewster's work, and have no stock in his company, but he has put on what I think is the nicest tooth in the



market. It is made something like that diatoric tooth. Since I have been on the faculty here one of the students made a bridge with one of those diatoric teeth, and it is one of the nicest pieces of work I have ever seen in the mouth. But it is better than a bridge made with the diatoric teeth. Instead of having the opening run up toward the centre of the teeth, and consequently in the weakest part of the porcelain, this platinum box points toward the cusp, so that the strain comes in that which is the strongest part of the tooth. By making a little cup of gold, by swadging and then putting in one of his pins, the whole piece may be easily made to fit. I have been delighted to meet Dr. Peeso, and I can assure him that when he comes to Canada again, metaphorically speaking, all he will have to do is to pull the bobbin and the door will open. (Laughter and applause.)

THE PRESIDENT.—We have been delighted to hear Dr. Thornton's discussion. I think Dr. Thornton has described my own removable facing in place of Dr. Brewster's.

DR. THORNTON.—I am glad to know that. Great minds run in the same channel. (Laughter.)

DR. W. A. BURNS, St. Thomas.—I can assure you it is with a great deal of diffidence I stand before you. After the able manner in which Dr. Thornton has followed out the line of thought of Dr. Peeso, it leaves but little for me to say. I must congratulate Dr. Peeso on the practical nature of the talk he has given us. I am quite positive we can all agree that he has struck the foundation of all defective bridge work when he says it is due to faults in the mechanical construction. He referred to the use of that peculiar shaped disc. I have been using those discs for some time, and I find that by the use of the Davis right angle—and it is about the only use I have for the Davis right angle—I can get much better access to those difficult parts. There is another thing in connection with the question raised as to the devitalizing of those molars. I have seen it advocated that in place of cutting down so freely on the teeth there should be more of the nature of a half band, bringing the band simply to such point, simply half way down the tooth, so that it leaves no lodgment for food, and using the masticating surface so that there will be perfectly free access in cleansing it. In my practice I have made removable bridges, and I must confess that in a great many cases they have been entirely unsatisfactory. I found that patients were very apt to remove those bridges from the mouth, and they might leave them out for a few days, and we all know how easily a tooth will change its position, and you might possibly in crowning it have laid your crown in such shape that you are sending a little lateral stress, or stress in some other way or other, and it will move, and the patient will come back with

the bridge in his hand, and you have a real nice time to adjust it again. Another thing I found objectionable enough was the wearing of the attachments. Dr. Peeso remarked as to the difficulty of the repair of facings in the posterior part of the mouth. I have had that difficulty. Of course we all have. I think I have solved that difficulty; in fact I have been doing it for the past five years. It never appealed to me as anything out of the ordinary, and I was showing it to Dr. Webster this morning. One of the dental travellers some time ago happened to see me repairing a facing on a bridge, and he drew my attention and said it was something out of the ordinary. I find it is no more difficult for me to repair a facing on the posterior part of the mouth than it is in the anterior part. For that reason I have been using almost exclusively for the past few years a saddle-back tooth in bridge work, made for the reason that they are more artistic. I use the saddle-back tooth with the box packing. I took the trouble to make up some samples here which will show the new mode of operation in repairing a facing on a bridge. (Samples passed to the audience.) You will see the teeth will follow in rotation. The first thing in repairing a bridge, I take a facing suitable to the case in hand. I drill my holes through the backing, and adjust the teeth in the proper position. Then I have a thin sheet of platinum—there is less danger of burning by solder than gold. Take a pair of pliers. Rub that around the tooth-pin, it will form a tube. Then clip off the pin from the tooth; close up the tooth; put the smallest particle of solder on that with a little borax; bed the tooth in the compound composed of asbestos and Portland cement—I buy it from hardware stores; they use it for covering plumbing. I do not wet the investment, but simply heat it up. Then you have a tooth with two hollow pins in it. Enlarge the hole slightly in your backing. Adjust your tooth. Use your cement if necessary. I use a ball-headed burnisher to spread the tube on the ligual end, and I have an attachment somewhat similar to the attachment on the eyelet in a shoe. It makes a small hole there, which if you are using platinum you can fill with amalgam or with gold. If it is inaccessible you should use amalgam; if it is accessible it is preferable, of course, to use gold. You can hardly tell that the tooth has been replaced. I have been doing that for some years. So far I have found it entirely satisfactory. Since showing it to one of the dentists here it has been suggested to me that it would be a very easy matter to get a suitable pair of pliers, on the principle of a cobbler's punch that would spread that hollow post; and I was also informed by one of the dental dealers that if it was of any advantage they would put on the market a platinum tube in

suitable lengths for that class of work. I think there is nothing else that I can say. (Applause.)

THE PRESIDENT.—This is a very important subject, and while we should probably close the discussion at this time, we have a few minutes for any questions that you should wish to ask Dr. Peeso while we have him with us. Will you kindly be prompt?

DR. SPARKS.—I would like to ask the essayist if he recommends the saddle for removable bridges? If he recommends telescope crowns for retaining them, or crowning the abutment and using bands for retaining the bridges?

DR. PEESO.—In regard to using saddles in bridge work, I do not think that it is necessary in most cases. Take it where the abutments are weak, or one of them may be weak, then I think it would be advisable to use a saddle; but where you have a good strong abutment, unless the pieces are unusually long, I think that an ordinary bridge made as a self-cleansing bridge with a facing is all that is necessary. In regard to the different styles of abutments advisable in those cases, that depends altogether on the case. The telescope cap can be suitable in one case and not in another. There is one thing in regard to telescope caps or removable abutments. As I said when I was speaking before, it depends altogether on the manner in which the work was done. You take a telescope crown. If it is properly made there is practically no wear to it. A bridge may be in the mouth for ten or twelve years and it will be just as firm as when it was first put in the mouth. The fluids of the mouth seem to form some sort of coating that keeps the metal of the two caps from coming into contact; after it has been in for years the piece will go up and bind and clutch it just the same as when it was first put in place. It does not seem possible, but it is so. Now, there is one thing I wish to speak about, that a gentleman brought up, and that is in regard to the parallelism of the abutments. Is it being necessary to make them absolutely parallel? It is not. In fact I had rather the abutments for a removable piece would not be exactly parallel. I calculate to take advantage of the natural inclination of the teeth. If they converge here I would take advantage of that and grind them so that they lean slightly toward each other, so that when the bridge is forced on the teeth are forced apart just slightly, and you take advantage of that slight natural spring to help hold the piece firmly. If the teeth diverted take advantage of that and leave the abutments divergent so that they will assist in holding the bridge in place without the strain on the abutments that there would be otherwise.

DR. CLARK.—Is there any difficulty with those caps in the removal of bridge work becoming offensive, or does Dr. Peeso suggest anything to the patient to keep that from being

offensive? The few I have removed I have found very offensive. It seems to me that they must be more offensive than those that are cemented on.

DR. PEESO.—Of course the inner caps are cemented in place. The inner caps should go nearly one-sixteenth of an inch under the gum line. The outer cap should not go below the gum. If you carry your outer cap away under the gum it will be offensive, but if you leave it outside it will not be offensive. I have taken bridges off that have been in the mouth for two years where there was no disagreeable odor, unless you got it very close to the nose and looked for it.

DR. SMITH.—Would you make your removable part in gold and porcelain, or with a rubber attachment?

DR. PEESO.—The removable parts, in making telescope cap or anything of that kind, of course you have to have very rigid material. I always use gold in making a telescope cap, and coin gold. That is not the coin of the realm here, that is purer than our American or United States coin, but it is a little too soft. You have a little silver in, and we have a copper alloy which makes it very hard. While not as pure it is a better wearing alloy for anything of that kind. You must have a metal that is perfectly rigid and will not stretch.

DR. SMITH.—What I referred to particularly was the material of the balance of the bridge.

DR. PEESO.—I use gold and porcelain.

DR. MATHERS.—What do you use for the inner cap?

DR. PEESO.—The same—coin gold, or if I make it myself I use the alloy, gold and copper.

DR. BRUCE.—You stated that the fluids of the mouth got in between the telescope and the crowns. If the fluids of the mouth get in there what is to prevent it from becoming offensive?

DR. PEESO.—You take it in placing a piece, either fixed or removable in the mouth temporarily, the fluids of the mouth coming in contact with the tooth structure will become decomposed almost instantly, or within a very short time. In an hour or two and there is a very pronounced odor. Between the caps there must be some circulation of the fluids, unless the outer cap goes under the gum and it is confined in contact with the mucous membrane; but between the two caps, there being nothing to decompose it, it seems to remain in a perfectly sanitary condition. But if you carry it under the gum so that it is confined there and comes in contact with the mucous membrane it decomposes very rapidly.

DR. GRIEVE.—Where you are putting a porcelain plate and putting a tube, how about your attachment of that end of your abutment?

DR. PEESO.—On the labial side the band comes just to the

edge of the gum, and on the palatal side it stands out from gum drill one-sixteenth of an inch or more. The pin is in the floor of the outer cap, but the outer band is only a half band, and does not go under the gum. The half band is used to help take the strain off the pin, and that should come just a little above the edge of the gum.

DR. CLARK.—Dr. Peeso suggested the difficulty that I have often felt, and I am sure every one else has felt, that is, in trimming a molar tooth to receive the abutment, to get at that point, the mesio-lingual angle. I would like to describe the way in which I have been doing it, and ask Dr. Peeso if he can suggest another better. Although it is an improvement on the trouble I had previously, still it does not quite satisfy my wishes. I have been using those concave discs for a long time; in fact I use them a great deal more than I do the perfectly flat for the teeth at the back—I very seldom use those; but to get around that angle there is a certain little place you get in the mesial lingual angle where it dips under and prevents you from preparing the proper cone, and therefore the desire comes for a flexible disc. In studying about formaldehyde I found that one of its properties is that it renders glue and all gelatines insoluble; and therefore I tried dipping coarse corundum or carborundum discs, such as we can buy for preparing gold fillings and the like, into a solution of formaldehyde, and then after they are dried dipping them again into various things; I have tried a thin solution of shellac, ethereal solution of paraffine or cullodion, and letting those dry. I have found that you can use those for a long time; even though you are running in the saliva and blood you can reach around and trim those.

DR. PEESO.—I found that that angle can be reached better with a cup-shaped disc by reaching from the opposite side of the mouth. There is a little angle that has to be cut entirely away, and by taking this disc and reaching from the opposite side of the mouth you can carry it around nearly far enough to make the lingual side straight. The sandpaper or emery disc, or anything of that kind, I find especially useful in the upper mouth or rounding the corners of the molars. It being flexible you can sweep around there more easily in the upper than in the lower on account of the moisture. I am glad the doctor has spoken about the preparations for rendering these discs impervious to moisture.

THE PRESIDENT.—While we are all here to exchange ideas, I do not feel that I should be shut out from offering an idea if I have it. (Hear, hear.) Dr. Clark brought up a very vital point in the preparation of the lower molars at that very angle of the teeth. Now, my way of getting over that difficulty is in using one of Dr. Young's copper and diamond discs on the right angle. (Making diagram showing shape.) I used one

of this shape, and by using that on the right angle and canting it in different directions you can get around that either by using the internal surface of it to keep away from touching the adjoining teeth, working from the front, or by using the external surface and canting it in the other direction, when you can get at that angle of the teeth very nicely.

DR. CLARK.—With the adjacent teeth in place do you not often find still with all this that you cannot prevent trouble?

THE PRESIDENT.—It is difficult, but I find that this form of stone or disc gives me the greatest satisfaction, and by manipulating with the right angle I find I can get around that corner pretty well. There was another thing that I have been up against, the trouble in removable portions of bridge work. Dr. Peeso mentioned that he would take the choice of fitting the abutments on teeth leaning away from each other. Now, I find from experience that in that case the tendency of the abutments to strain causes each abutment to raise your bridge off the other. The greatest satisfaction is obtained by having the abutments lean as far as possible toward each other. The tendency of the strain on this abutment is to keep it down, and the tendency on the other is to keep it down on this one (showing). I find that principle to work out in cases of movable gums, and I have never found it to fail.

DR. THORNTON.—Just before I went home Dr. Webster drew my attention to the fact that at the meeting of the Dental Pedagogics in New York his year, Dr. Kenelly had drawn his attention to a little instrument and method of work that may be of service to you before very long. Usually when the porcelain was fractured it was on the anterior crown; indeed, always the pins with the head on are left in the soldered back. Now, in order to put on a new porcelain, we have always ground off that pin, made a hole for the reception of the new pins, and in some way attached those new pins. Now, instead of doing that, leave the pins right in the soldered backing and cut the pins out of the facing, which is a very easy matter. Simply take a little piece of thin copper, make a little tube large enough to slip over the head of the pin; with either emery powder or some powder that is furnished with those carbocopper discs, use a little glycerine, and by rotating that little disc around the pin you can cut the pin right out. Then simply cement the facing on there, leaving the pins. In that way you have not weakened the backing in any way, and you have facilitated the operation very much. The day after I went home I took a little piece of one of the copper discs used in practice in crown and bridge work, bent it around the pin, but the difficulty was to hold it. I took an old bar of soft solder, and in that way you can hold it with the engine; and I sent down to Mr. Jones a tooth with the instrument. Dr. Webster

had suggested that I show it to the men that are here tomorrow. It makes that which is otherwise a difficult operation, an operation which is comparatively simple.

DR. CLARK.—Is it strong?

DR. THORNTON.—That question always arises. Surely it is as strong as a Davis crown, which is held by simply one pin and depends absolutely on the cement for its retention. I do not think there is any doubt at all about its having sufficient strength.

## PRESIDENT'S ADDRESS.

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BY W. B. CAVANAGH, CORNWALL.

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Delivered before Eastern Ontario Dental Association.

*Gentlemen*,—It is my pleasant privilege and great honor, as President of this Society, to welcome you this evening to its twenty-eighth annual meeting.

I have been requested to extend to you, on behalf of our fellow-members of the profession and the citizens of Cornwall, a hearty welcome and greeting. It is our desire to assure you that we appreciate the honor you have conferred upon us by your presence here, and at the same time to assure you that we shall make your visit among us as pleasant as possible.

While nothing very startling has developed in the dental profession in Canada during the past year, yet we are moving forward. That increasing interest by the general public is taken in dentistry is shown by the fact that, although the increase in numbers entering our ranks each year is far in excess of the increase of our population, the demands for dentistry seems to keep pace with the increased supply. The education of the public to the importance of preserving the teeth will create an increased demand for the skilful dentist.

I would urge upon the individual members of the profession the importance of attending dental society meetings. At these meetings he meets his fellow-practitioners, and besides the good which comes from escaping the routine of office work for a few days, he receives many new ideas, gets help on vexing problems, and derives much benefit from his trip. Furthermore, societies need the support of every dentist; and we feel that he owes it as a duty, not only to the society, but to himself and his profession, to attend and do his share towards helping on with the work.

The Dental Society is the recognized avenue through which the standard of our profession is brought to a higher plane, to not only the members, but to the world at large. Here it is that men of brains and genius professionally show their light; and where their knowledge becomes through the dental society the knowledge of all its members.

The need of dental education in our schools is a subject that should receive our consideration.

The instruction in the public schools in matters pertaining to the teeth is extremely faulty, and the instructors, as a rule, are ignorant in this particular branch. No attempt has been made in the text-books on physiology used in our schools to more than familiarize the pupils with the fact that they have teeth.



As a matter of course, the average teacher, having all he can attend to—so at least he thinks—does not make any effort to inform himself concerning the teeth, as he is not required to pass an examination as to what he knows about them, and certainly no physical examination is made of his own teeth, else many of them would fall by the wayside in their efforts to obtain a certificate, and might consider themselves fortunate not to be reported to the Board of Health.

Now, the question arises how are we to improve this state of affairs? The school system is a big thing for a handful of dentists to tamper with, but, withal, it is one that has always been ready for any needed or wise improvements, and there seems to be no reason why, if this matter be presented to the "powers that be," it will not be acted upon in a wise and competent manner.

I would suggest that the chapter in the text-book on physiology pertaining to the teeth, their growth, structure, and care, be prepared and written by a competent dentist, not by a physician; for the average physician, although he means well, does not know much more about the preservation of the teeth than the average school teacher.

That each teacher be required to pass an examination in a branch known as "Oral Physiology, Anatomy and Hygiene," and that these questions should cover as much as the questions in any other branch in the course of study.

Examination of school children's teeth by competent dentists, and report to Department of Education half-yearly.

The attendance of dentists at the teachers' conventions, and their reading of papers pertaining to the teeth, their growth, structure, and care.

The Organization Committee of the Dominion Dental Council reported in November, 1905, to the Council, and the Council adopted the report.

The adoption of this report places the control of the dental profession of the provinces of Canada under the Dominion Dental Council. It erects and maintains a uniform standard of education and ethics for the dental profession. The power of conducting examinations and issuing certificates of qualification, which certificate shall be accepted without further examination by the provinces, is given to the Council.

We have a programme to present to you worthy of your closest attention, and I hope every member will feel free to discuss fully the papers and clinics. The great object of a paper read at a convention is to provoke discussion, which will frequently bring out points the essayist never thought of.

**PORCELAIN INLAY FILLINGS.**

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BY OLIVER MARTIN, D.D.S., OTTAWA, ONT.

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Read before Eastern Ontario Dental Association.

In selecting this subject, I do so, not because it is the one with which I am most familiar, but because it is fraught with much interest to us all; and, excepting prophylaxis, is the newest and most up-to-date feature in dentistry.

Looking into the future, we can see a demand for this work, and as the best operators in gold made reputations and were sought after, so will the practitioner who is capable of inserting a good porcelain filling become the choice of a class of people which, I am delighted to believe, is constantly increasing—people who are seeking or at least affecting culture, and who want the artistic and esthetic in everything. To many of this class the appearance of a large gold filling in the anterior teeth has somewhat the effect a gaudy chromo would have upon you gentlemen if hung in the reception room of your office.

*Our Ideal.*—Should be to approach the normal and natural as closely as possible.

*The Material.*—About ten years ago Dr. Robertson purchased a Downie Gas Furnace with porcelain body for crown work, consisting of twenty-four colors; about four of these were practical shades—the remaining twenty drew upon your imagination so as to almost make you think color-blindness to be your particular weakness. This body was low-fusing and not very strong. Up to this time we had only heard of porcelain inlay fillings, had not seen any, much less learned anything about the technique of their construction. As a venture, however, I inserted six for a young man in approximate cavities of the centrals, four in the upper and two in the lower. I mention this, because I owe nearly all my enthusiasm to the durability of these fillings, which we had the pleasure of seeing quite recently in good condition. Although I sometimes use a low-fusing body, I have no hesitation in saying it does not compare with the high. We have used the Downie, the Ash and the Jenkins low-fusing. The Brewster and the S. S. White high-fusing bodies, and if confined to one of these the S. S. White would be our choice for inlays. I have tried the low-fusing porcelain in connection with the high, but found only partial success.

*The Furnace.*—It is generally admitted that an electric furnace is the best. My experience is with a Hammond, and it is most satisfactory.

*Plan of Procedure.*—Many methods are in vogue for con-

structing the matrix. Some of these appear as an effort to eliminate the operator's skill, by devising a system so perfect in itself that when followed carefully will always yield good results. This, I believe, is a delusion, and skill on the part of the operator will always maintain a supremacy. In this connection I think we should try those methods which appeal to us as good, put them to a practical test and select the one which, in our hands, gives the best results; and if we cannot devise a better, keep to it until, by practice, we become expert. Changing from one system to another is about the shortest cut to failure I know of.

*Selection of Cavity.*—Very often chances are taken in certain operations, trusting to luck, as it were, hoping against bad judgment. In porcelain inlay work this is about the very last thing we should think of doing. So, at the beginning, we should use all the judgment, wisdom and common sense we possess in deciding for porcelain, especially in contours. I have seen failures where nothing else could be expected; for instance, a large contour filling, including the cutting edge of an incisor, stuck with cement to an almost level surface. Cavities selected should permit of proper preparation and afford the possibility of securing sufficient space.

*Selecting the Shade.*—This, I consider, the most trying and also the most important feature of all, because the porcelain inlay is of necessity an esthetic filling, and color is everything. Very natural and beautiful effects may be obtained by using different shades in large inlays, having one color underlie the other, and also shading from the gingival margin to the cutting edge. In small fillings, no matter how perfect the shade, the effect is spoiled by the cement. The best way I know to overcome this is to make the cavity deep, and thus give sufficient thickness to the porcelain so that its color and translucency will not be affected by the cement. In this connection, I would draw your attention to Dr. Roach's new opaque porcelain, which promises great things. An account is given in the *Dental Review* for April by Dr. E. J. Perry.

*Preparing the Cavity.*—No cast iron rules can be laid down for cavity preparation, because circumstances alter cases. We should endeavor to have parallel walls, slightly rounded corners, a square seat, and no undercuts in the strict sense of this term. I would use a groove in some cases, but in no instance a perfectly round orifice, as it is too difficult to place the filling, especially when the cement is applied. In the incisors, when a cavity involves part of the cutting edge to obtain sufficient retention, I enlarge it on the palatal or lingual surface well across the tooth—not "extension for prevention," but extension for retention. Surface is the great factor in retaining inlay fillings.

*Making the Matrix.*—The method which I prefer and the one I use is to burnish into the cavity direct, using metal sufficiently heavy to maintain its shape without investment. The metal should be heavy or light, according to the size of the cavity. Cut a piece, corresponding in shape to the general outline of the cavity, but a little larger, especially where the cavity is deepest—begin by burnishing gently with a rotary motion near the margins, gradually increasing the pressure and working towards the centre or deepest part of the cavity. This will prevent folds in the matrix and puncturing. Pay particular attention to the margins, the centre will look after itself. I like to work with two burnishers, one in each hand. This will prevent drawing away from the margins and rocking of the matrix, because you are holding one side in place while working at the other. I like round or inverted cone-shaped burnishers, especially the latter for margins. In small cavities cotton or spunk packed in tightly after approximating the shape with burnishers is very satisfactory. Anneal the matrix often, and use a magnifying glass to examine it in position.

*Filling and Baking.*—Clean the matrix—I do this by heating in a bunsen flame to a red heat. Mix the porcelain body thoroughly and work it as dry as possible. I prefer the spatula to the brush, because a thicker mix can be used. In filling the matrix hold it with a pair of lock-tweezers, and produce vibration with a serrated instrument, drawing back and forth over the edge of the tweezer; or by gentle taps this will bring any moisture to the surface, which may be absorbed with blotting paper. A depression made in the centre will prevent the porcelain from shrinking away from the edge of the matrix in the first baking. With regard to fusing, I have had no experience with a pyrometer, neither with the pure gold buttons or any other method to determine the proper heat required, but simply watch the glaze. A very high glaze may result in the burning out of color, spoiling the work completely. I have had this happen, and it is not very nice. I find the S. S. White body the most reliable in this respect, as it is not nearly so apt to change color in fusing. I have noticed also that some shades are more easily burnt out than others, even in the same make of porcelain.

*Etching.*—To roughen the retaining surface of the inlay I have used hydrofluoric acid, scraping with a small, sharp excavator, and grinding in grooves, but as yet have not tried using a non-fusible material in the bottom of the matrix. This last, I should think, would only be applicable to large fillings.

*Cementing.*—This is a very important part of the work, and I must confess it is where I find the greatest difficulty. I am generally so anxious to know if the filling is in place all right that I cannot leave it alone when it is all right. My experience

has taught me the following: always use the same make and color of cement if possible. I prefer Harvard light-yellow to any other. Mix it thin enough and get it in as quickly as possible. Do not put in too much, wipe off the surplus immediately with a piece of spunk so that you can see where you are at, then apply pressure and maintain it till the cement crystallizes. In some cavities you will simply need to hold the filling in place for that time, but in approximate cavities a piece of nursing bottle tubing sprung into place between the teeth does it to perfection.

In conclusion, let me say, I think a paper might be written on any of the ten divisions into which I have tried to divide this, and perhaps some of you gentlemen will take this subject up in detail, which would do us all good. Personally, I have found porcelain inlay work practical and successful, and, gentlemen, it certainly is beautiful when shade and fit are good.

## THE MATRIX IN FILLING TEETH.

BY A. E. WEBSTER, M.D., D.D.S., L.D.S., TORONTO, ONT.

Read before Eastern Ontario Dental Association.

There always have been opponents to the use of a matrix in filling teeth. Objections have been urged by those who know little of its use and less of dental anatomy and the physical properties of filling materials. Both teachers and practitioners have been sounding warnings against the use of the matrix, but in spite of these warnings it is coming into pretty general use for all kinds of filling materials used in proximate cavities. Some writers are so illogical as to dogmatically state that a matrix should always be used in proximate cavities for amalgam and never for gold. They say that gold cannot be properly condensed against a matrix, which, if true, would be equal to saying that gold cannot be properly condensed against the cavity walls. The fact is, gold or any other material is more easily condensed against a well-supported matrix than against the uneven walls of a cavity. Another objection raised against the matrix is the imperfect contour. If the contour be imperfect in a gold, then it would be equally imperfect in an amalgam. But the fact is, a better contour can be more easily obtained, with less distress in separating with a matrix than without it. The bases for the chief objection to the use of a matrix is perhaps a failure by the objector, or perhaps of his friend, owing to an improper selection of the case, improper selection of the form of matrix, or improper instruments or want of knowledge concerning the use of matrices in general. The operator who buys a Woodward, a Brophy, or one form of an ivory matrix and expects this matrix to fit all kinds of cases is certainly doomed to failure. The operator who will not try his matrix on a tooth form before he tries it in the mouth invites failure also. It is only by conscientious effort and close observation of the requirements in the case in hand, and the possibilities of each matrix, that will ensure success in every case. It is as difficult to explain the selection of a matrix and its adaptation to all manners and conditions of cases as it is to explain all the details and contingencies that might arise in a case of orthodontia. But there are certain general principles which all of us should understand.

All plastic or semi-plastic materials, or those which tend to spread under pressure, increase in strength the more tightly they are compressed. And since they have a tendency to spread under pressure they must be confined between walls to attain the greatest strength. Note the work of builders in making

cement walls or concrete foundations. They invariably use a matrix and heavy pressure. Filling materials which come under this class are: all cements, gutta percha, amalgam, non-cohesive and semi-cohesive golds and tin. Then to get the very best results with these materials they should be compressed into four-walled cavities, and such cavities as cannot be classed as four-walled, or cannot be filled from the surface opposite the largest floor area, should be converted into four-walled cavities by the use of a matrix.

*Range of Usefulness.*—The matrix has a wide range of usefulness. There is hardly a proximate cavity in which it is not of great service. There are few if any proximate cavities in molars and bicuspid which should not include the morsal surface. In all of such cavities, no matter what filling material is used, they can be better filled with the assistance of a matrix. Recently several forms of matrices for anterior teeth have been made for proximate cavities, not including the morsal surface. These are very exacting in their requirements from the manipulative standpoint. Failures are certain to follow their use for gold fillings unless the general principles required in the use of all matrices are rigidly followed.

*Advantages.*—Shortens the operation; less exacting and tiring on operator; less distressing to patient; better contour for filling; saves cutting convenience angles; saves time in finishing; a more dense filling can be made, and consequently stronger; separation previous to operation not necessary; no danger of squeezing filling material into interproximate space.

*Limitations.*—The anterior matrix as at present formed is of little or no value in proximate cavities which involve the incisal edge. In those rare proximate cavities which do not involve the morsal surfaces of molars and bicuspid in old people, the matrix is of no value. Though it is sometimes recommended that a matrix be used in those cavities which go deeply below the gum margin, the writer believes it is not especially adapted to such cases. It is both difficult and painful in application. Better build the filling up above the gum line and trim it there and then apply the matrix to finish.

*Cements.*—By experiment it has been shown that cement fillings are much stronger when put in under pressure. The only way to get the pressure in proximate cavities is to accept the assistance of a matrix. In molars and bicuspid the ivory matrix will serve almost every purpose. The surface of the matrix coming next to the filling material should be slightly lubricated with vaseline to prevent the cement from adhering to it. For anterior proximate cavities there is nothing better than celluloid strips which are very smooth on the surface quite thin and flexible, and may be held in position with the left thumb and finger while the cement is squeezed into place with a good deal

of force. If the cavity has been filled from the labial surface the free labial end of the strip may be brought over the filling, pressing it to place on the labial by lapping it tightly around the tooth, drawing firmly on both ends of the strip. The matrix will come away readily, leaving a smooth, hard surface to the cement. Very slight trimming of the margins is all that is necessary.

*Gutta Percha.*—Gutta percha fillings may be packed to place using the matrix in the same way as cements; but it takes a good deal more skill to insert a good gutta percha filling than a good cement. Its requirements, from a manipulation standpoint, are more exacting, but the results are much more satisfactory. Good, firm pressure is essential.

*Amalgam.*—It is in the insertion of amalgam that the matrix finds its strongest advocates. Like other plastic or semi-plastic materials, amalgam only reaches its maximum of strength when inserted under heavy pressure. A plugger-face having a diameter of more than one millimeter should receive a pressure of fifteen to twenty pounds to properly condensed amalgam. Such pressure cannot be exerted on a proximate filling in a molar or a bicuspid, unless one of the two lacking walls of the cavity is restored by a matrix. The matrix must be rigid, thin and flexible, but not soft or stretchable. It must be well supported at the gingival, either by packing cotton, gutta percha compound, or wedging with orange wood against the adjoining tooth, or held tightly around the tooth with a holder, such as the Ivory or the Henecker. As the amalgam reaches the morsal surface the matrix should be loosened so that it may spread out tightly against the adjoining tooth to make a proper contact point.

The removal of the matrix takes as much skill and patience as its application. All wedges should be carefully removed first; and if a quick-setting alloy is used the matrix may be carefully worked up and down at its extreme ends, and drawn slightly downward and sideways towards the side which has the most supporting tooth tissue to the filling. It is usually the last tip of the matrix which breaks away any of the filling, and it is this which is often very hard to restore. When the matrix has been removed the amalgam may then be rubbed on the surface towards the adjoining tooth, while a wide wedge may be pressed between the teeth to gain as much space as possible. Thus a better contact can be secured. There is not much need of this if previous separation has been gained, or if the amalgam has been firmly packed against the matrix while filling.

*Amalgam Pluggers.*—The modern amalgams and the use of the matrix have demanded some changes in the forms of amalgam pluggers. There must also be a distinction between amalgam burnishers and amalgam pluggers. Pluggers should



somewhat conform to the shape of the cavity to be filled, and since we now use only flat seats for cavities, pluggers should have flat faces; and more, they should be serrated so that the amalgam when condensed does not spread as gold does under the mallet. Burnishers are for a different purpose; nowadays we rarely burnish amalgam fillings to place, because there is not force enough used to make them strong. Burnishers are for trimming up the filling to form after it has been inserted.

*Gold, Tin, Tin and Gold.*—All of these materials work somewhat alike. The technique is practically the same for all. The matrix must be adjusted with great care and be rigidly held to position, only spreading under great force. A plugger point of less than a millimeter in diameter requires from ten to fifteen pounds of pressure to properly condense gold. The matrix should be so rigid that it requires an equal force to spread it. The gold should be packed against the matrix with as much care as against the cavity walls, the aim being to force the gold between the margin of the cavity and the matrix so tightly that the matrix will spring out and allow the gold to squeeze through to some extent.

There must be some care taken in adjusting the matrix in large proximate cavities in molars and bicuspid, lest it be drawn so tightly around the tooth that there will be no space to get the filling material wedged in between the cavity margin and the matrix. The matrix should stand in its proper position to allow a proper contour when applied, and not be depended upon to yield too much under the pressure of inserting the filling.

*Manipulation.*—Cohesive gold does not work well against a matrix; nor for that matter it does not work well in any four-walled cavity. To take full advantage of the matrix in large cavities in molars and bicuspid it is necessary to use non-cohesive gold or tin, or tin and gold, beginning with large enough rope to fill the whole bottom of the cavity, so it may be wedged or braced against the four walls, one of which is the matrix.

The rope must be wide, forced to place with plugger points suitable for heavy hand pressure. The rope should be wide enough to reach from the pulpal wall to the matrix, and long enough to make two or three folds back and forth from lingual to buccal. As the rope is turned from buccal to lingual, and from lingual to buccal, there must be a little excess of material allowed to raise up against the matrix and buccal and lingual walls, which serves to make sure that the margin will be covered, and the matrix bulged out under the heavy hand pressure from flat-sided instruments. When the first rope is in place it may be gone over with a large flat-faced plugger with a driving blow from a heavy soft-faced mallet. This rope should never reach the contact point or even the step.

Anneal about a half an inch or an inch of the next roll, and begin with the unannealed end, manipulating as in the former case, making sure all the time that the margins are covered. As the annealed end comes into the filling condense with small pluggers and a light, hard-faced mallet. When the contact is reached be certain that the gold is annealed and well condensed against the matrix.

At this point the matrix may be loosened if it be an Ivory or Henecker, so that the spreading force of the gold will tend to separate the teeth. Finish cavity with gold in ordinary way. The removal of the matrix and the finishing of the filling are easy.

The anterior matrix is more difficult to apply and to keep in position than the posterior matrix. It has a tendency to slip down while the gold is being packed against it. Failure is almost certain if cohesive gold is depended upon to wedge between the cavity margin and the matrix.

The retention must be filled with cohesive gold, and the margins with semi-cohesive gold. There is great danger of failure also at the incisal and gingival margins, because there is a tendency for the operator to tighten up the matrix the more it seems to want to move. This tightening draws the matrix so close to the margins at the points mentioned that, unless great care is exercised, the gold will not cover the margin.

*Instruments.*—There are two classes of faces and shapes suitable for inserting gold, or tin and gold, in four walled cavities, or against matrices: the flat face and round point, of good size and deeply serrated; and the convex face in both long and short diameters, and oblong in form, one diameter about three times the other. The shanks should be of suitable form to reach the positions necessary. Johnson's set of four, if made less in the short diameter, would suit every purpose.

*Forms of Matrices.*—Celluloid, Ivory, Steel (plain) Henecker, German silver plate, Crenshaw.

## PRESIDENT'S RETIRING ADDRESS.

DR. W. G. L. SPAULDING, TORONTO.

Read before the Toronto Dental Society.

*Mr. Chairman and Gentlemen,*—A year ago you elected me President of the Toronto Dental Society. Flushed with the honor, and mindful of a few ideals and hopes of my own, I entered timorously upon the duties which should have been laid upon a more sagacious and more experienced head than mine.

Seven meetings we have held, and at each something interesting and instructive has been presented.

At the annual social function, the marked success of it was due to the courage displayed by the administration in providing as the set-piece of the event an address from Mr. W. T. White on "Stocks and Investments."

Those who heard Dr. Tracy, of Toronto University, speak on "Ethics" at the January meeting, felt the inspiration in the refinement of education expressed as ideals, and experienced a thrill of pleasure in being members of a profession which ennobles and elevates itself in ministering to the sufferings and need for preservation of the human race.

Sometimes I wonder if dentistry is not improved as much by the good feeling engendered among dentists in their social contact at meetings as by the literary effort presented as programme, and this in no way belittles the latter.

The personal equation is a strong factor in determining the standing of the dentist. There are those whose pronounced capabilities in some definite direction lead them into the limelight of public view. As a sort of complement to these strenuous souls, there are the diligent, more silent workers, whose contact with the masses is closer and more far-reaching in numbers.

I am convinced that no amount of appeal of duty will enlarge the membership or attendance of this Society, to include all the eligible dentists in Toronto. No crisis, no question of critical movement, no threat of interference with personal or professional liberty is at hand to be dealt with in the interest of all, therefore, all are not deeply touched with a desire for professional conclave.

With the purpose of creating a public interest in the knowledge of and care of the teeth, and of the usefulness of dentists in the community, through the daily press, this Society has created an office, that of Press Editor, but the honor of justifying the wisdom of creating the office is still open to that officer-elect.

The public are hungry for dental education, and if to them

the Toronto Dental Society appears as standing for such advancement, then the dentists of Toronto will seek to crowd into these meetings.

Dental service, if not of unestimable value to patients, is certainly not estimated sufficiently by them. The compensations we receive are not at all commensurate with the close application and the expenditure of vitality which every dentist finds his work demands of him. We will determine to make our services worth more and more to our patients, and then with confidence set a more appropriate fee. There and then can charity begin.

It is with real sense of loss that we refer to the decease of Dr. J. R. Mitchell, of Perth, retiring President of the Ontario Dental Society. A man among men, he will be missed from the associations of his fellow practitioners.

To the officers and members of the committees I wish to express my appreciation of their efforts. My thanks are due you for the interest you have taken in the meetings over which I have presided.

For the President-Elect I wish the utmost success of the Toronto Dental Society, and know that the good feeling you have extended to me will also be extended to him.

## **Proceedings of Dental Societies**

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### **NATIONAL ASSOCIATION OF DENTAL FACULTIES**

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The annual meeting of the Association of Dental Faculties will be held at Atlanta, Ga., commencing at 2 p.m., Friday, September 14th, 1906. The Executive Committee will meet at 2 p.m. on the same day.

H. B. TILESTON, Chairman of Executive Committee.

R. M. SANGER, Secretary of Executive Committee.

East Orange, N.J.

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### **THE ST. LOUIS SOCIETY OF DENTAL SCIENCE.**

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The St. Louis Society of Dental Science has elected the followings officers for the ensuing year:

Adam Flickinger, President; Emma Eames Chase, Vice-President; Geo. H. Westhoff, Secretary-Treasurer; Richard Summa, Curator; E. P. Dameron, D. O. M. Le Cron and F. S. McKay, Board of Censors.

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### **INTERSTATE DENTAL FRATERNITY.**

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The annual meeting of the Interstate Dental Fraternity will be held at the New Kimball House, Atlanta, Ga., on Monday, September 17th, 1906.

The meeting and banquet will be in charge of Dr. Thos. P. Hinman, the Vice-President for Georgia.

Dr. Hinman's well-established reputation as a host is a sufficient guarantee for a royal good time for all the fraternity who can arrange to be there. Do not miss it.

R. M. SANGER, National Secretary.

The next meeting of the Canadian Dental Association will be held in Laval University, Montreal, September 5, 6, 7, 8, 1906

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# Dominion Dental Journal

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## EDITOR:

A. E. WEBSTER, M.D., D.D.S., L.D.S. - - - TORONTO, CAN.  
3 COLLEGE STREET

*To whom all Editorial Matter, Exchanges, Books for Reviews, etc., must be addressed.*

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VOL. XVIII.

TORONTO, JUNE, 1906.

No. 6.

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## THE UNIVERSITY BILL AND ITS RELATION TO EDUCATION IN THE PROVINCE OF ONTARIO.

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We feel sure that as each dentist read the report of the University Commission, and as he took note of the breadth of the report, he said to himself, What about dentistry? pharmacy and dentistry being the only two departments of higher education not mentioned in the report. There must be some reason for this lack of mention. It might be that the relation of dentistry to the University is perfectly satisfactory to the R.C.D.S. and to the University. Or it might be that the Commission did not think dentistry a part of education in the same sense as law, medicine, veterinary, music, domestic science, forestry, mining, engineering, surveying, architecture and art. No matter what

the reason may be for the neglect, a great opportunity was lost to dentistry to get proper recognition.

If we are properly informed, the University is not averse to considering closer relations with the School of Dentistry, which leaves the question with the Royal College of Dental Surgeons. From the standpoint of the dental profession, would it be wise or would it be unwise to allow the University in a measure to take charge of dental teaching as they propose to take charge of medicine, law, veterinary, etc.? Of course, in such case the Royal College of Dental Surgeons would retain all its present rights and privileges. In this connection it might not be amiss to say that many dentists do not keep in mind the distinction between the Royal College of Dental Surgeons and the School of Dentistry. The R.C.D.S. is an incorporated body, holding a charter to manage the profession of dentistry, conduct examinations, appoint examiners, conduct a school, etc. The School of Dentistry consists of all those accessories which are for the purpose of teaching dentistry: the faculty, the building, and the equipment on College St., Toronto, all managed by the R.C.D.S. There are, perhaps, many in the profession who feel that a great deal would be lost if we gave up teaching dentistry. In other words, the dentist knows better what ought to be taught and how it should be taught than a faculty of educators or Board of Governors, who might not be interested to the same extent as the profession. The question is certain to come up for discussion sooner or later. Dentistry is a part of education just as much as medicine or surveying, and will eventually be so considered. Are we prepared for the question now, or shall we have to wait a few years longer?

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### THE CANADIAN DENTAL ASSOCIATION.

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The Canadian Dental Association will be held in the McGill University, Montreal, Sept. 5th, 6th, 7th and 8th, 1906. There is every indication of a good meeting. The programme will have such eminent authors on it as: Dr. S. H. Guilford, Philadelphia; Dr. W. A. Capon, Philadelphia; Dr. F. L. Fossum, New York; Dr. George Evans, New York; G. Lenox Curtis, New York; Dr. Eudore Dubeau, Montreal, and Dr. Stevenson,

Montreal. The clinics will be numerous and by the best authors. It is expected that the city of Montreal will do something to entertain the visitors. Besides this, the Society will provide for the entertainment of the ladies. On the first evening arrangements are being made to have a reception, at which will be present the Minister of Militia, Lord Aylmer, Col. Pinault, and Lieut.-Col. Fiset. It is expected that Dr. Bower, chief of the Army Dental Service of Canada, will read a paper on army dental service matters. In our next issue will appear a fuller statement of the programme.

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### THE EASTERN ONTARIO DENTAL ASSOCIATION.

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The twenty-eighth annual meeting of the Eastern Ontario Dental Association was held in Cornwall, Ont., June 6th, 7th and 8th, 1906. The attendance was not quite so large as in Ottawa last year, but the sessions were more interesting. The papers were good, and well discussed. In fact, the president had difficulty in getting through the programme in the allotted time, owing to the desire on the part of the members to thoroughly discuss each subject that came up. The Cornwall members of the Society entertained the members at a park some distance down the St. Lawrence from the town.

As usual, this Society took another forward step. A discussion grew out of a paper by Dr. McIlhinney, which ended in a resolution being given to the district member of the Board to present at the next meeting, requesting that efforts be made to organize a bureau of information in the college for the benefit of the profession and the public generally. The members of the Eastern Society discuss educational and professional management with less reserve than we do at the centre.

The next annual meeting will be held in Gananoque, a town noted for its hospitality and beautiful surroundings, and, as was said also, the birthplace of the Society.



**FEDERATION DENTAIRE INTERNATIONALE.**

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The Federation Dentaire Internationale will hold its session in Geneva, August 8th and 9th, 1906. This organization is composed of representatives from all the countries having dental organizations. It will receive reports from several commissions appointed a year ago on the following subjects:

*Commission of Education.*—(a) Motion by Dr. von Arkovy: "Dentistry (stomatology) is a branch of general medicine, and belongs to the edifice of medical science and medical education." (b) Motion by the French National Committee: 1. Complimentary study of curriculum; 2. Study of the best means to be employed to establish regular relations between reputable dental colleges of different countries. (c) Motion by Dr. Chiavaro: "Physicians who wish to take a course in a dental college shall pledge themselves to continue their studies long enough to enable them to acquire sufficient experience in the practical branches of dentistry."

*Commission of Hygiene and Public and Dental Service.*—(a) Motion by the French National Committee: Establishment of a definite plan of work for the Commission. (b) Discussion on the advisability of publishing a booklet on dental hygiene. (c) Questions proposed by Dr. Bryan: 1. How shall we reach, interest and educate the public in dental hygiene? 2. How shall the school children be treated to assure a useful dentition through life? 3. How shall the needy public be treated?

*Commission on Military and Naval Dental Service.*

*International Commission on the Dental Press.*—Study of the means to be employed to bring about the creation of an international dental organ, and to establish closer relations between the professional journals of different countries.

*Commission on Jurisprudence and Professional Ethics.*

*Commission on the History of Dentistry.*

*Commission on Dental Terminology.*

*Commission on the definition of what shall constitute a National Committee of the F. D. I.*

*Commission on a motion by Dr. Haderup of furnishing the poorer classes with inexpensive tooth brushes.*

## LAVAL UNIVERSITY SCHOOL OF DENTAL SURGERY

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The Laval School of Dental Surgery, which is affiliated to Laval University in Montreal, and which is teaching in French only, has just closed its second year. Thirty-one students have attended the school during the year, and more are expected for next year, and amongst them a few from France.

Seven candidates have received the degree of Doctor of Dental Surgery, viz.: Albert d'Argent, of Paris; Michel Renhold, of Paris; Armand D. Porcheron, Samuel Mauffette, M.D.; Leon Archambault, of Montreal; Leonidas Boutin and Horace Drouin, of Quebec.

The lectures are given in the main building of the University, on St. Denis St., where suitable rooms have been arranged for the purpose, and the infirmary, which has been so far the drawback on account of lack of space, will be replaced next year by a splendid one in the new building, now in erection, by *La Patrie* newspaper, on St. Catherine St. That infirmary will be all equipped new, and the operating room, which has a splendid light, facing on two streets, will have thirty dental chairs. Two laboratories, impression room, examination room, anaesthesia room, cloak room, waiting room, everything will be provided.

That infirmary will for some time be used by both Laval and McGill Dental Schools.

Dr. Eudore Dubeau is the Dean at Laval and Dr. Peter Brown at McGill.

Next session will open first Monday of October. The course in each one extends over four years.

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### DENTAL EXAMINATIONS.

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The results of the recent dental examinations in the first, second and third years of the R.C.D.S. are as follows:

#### FIRST YEAR.

Passed the written examination—Webster John Armstrong, William Allan Armstrong, Fred Barron, Franklin A. Blatchford, Charles Bouck, George Forbes Brebber, Wilbur Harvey

Coon, Rupert Hugh Cosgrove, William Arnold Cowan, Elwood Livingstone Cox, Norman K. Douglas, John N. Dunning, Gordon A. Elliott, Reginald Wilson Frank, Norman Guy, Vincent Egerton Hart, Garnet Tiffany Ives, John Logan Kappelle, James Lonergan, Charles H. Moore, Frank Homer Moore, Stanley Roy Moore, Howard MacLaurin, John Archibald McArthur, Robt. M. McIntosh, Russel Malcolm McLean, Beverly John Patterson, Wm. P. Powers, Albert Harold Pratt, Wilfred Johnstone Preston, John Alex. Ross, Elmo Sisson, Chas. Norman Simpson, Royal Elgin Stewart, Robert Duncan Sloane, Edgar Linton Thompson, Carl William Waldron, Carl Vivian Wallace, Robt. Sidney Woollatt, Robt. James Vance, Ernest Claude Veitch. Chas. I. James was prevented by illness from writing. J. B. Gordon and S. H. Hutt, no report.

To take further examinations—Histology: R. E. Fisher, G. E. French, D. C. Lake, M. J. O'Callaghan, H. McL. Peaker, W. Sleeth. Comparative Dental Anatomy and Bacteriology: F. S. Loucks, C. S. McComb, K. McL. McVey, H. McL. Peaker, H. A. Robb, E. H. Robinson, A. Rooney, H. A. Semple, J. S. Strachan, W. Sleeth, H. C. Spragg, R. R. Walker, I. J. Wigle. Anatomy: E. A. Clark, T. H. Graham, H. E. Klingner, E. H. Robinson, R. R. Walker. Prosthetic Technic: J. E. Amos, E. A. Clark. Metallurgy: H. A. Robb, E. H. Robinson, H. A. Semple, J. S. Strachan, W. Sleeth, H. C. Spragg, I. J. Wigle. F. Gower, W. R. Marshall, A. S. Mark, R. M. Macfarlane, M. J. O'Callaghan, H. McL. Peaker, E. H. Robinson, H. A. Semple, J. S. Strachan, W. Sleeth, H. C. Spragg, I. J. Wigle.

Practical technic—Wm. Allan Armstrong, Fred. Barron, James Murray Cation, Emory Albert Clark, Wm. Arnold Cowan, Elwood Livingstone Cox, Norman K. Douglas, Ralph Emerson, Reginald Wilson Frank, George Ernest French, James B. Gordon, Thos. Howard Graham, Perry K. Grist, Norman Guy, William Thomas Irwin, Charles I. James, John Logan Kappelle, Harold Edgar Klingner, Duane C. Locke, James Lonergan, Chas. H. Moore, Robt. M. McIntosh, Harvey Alexander Robb, Edgar Henry Robinson, Arthur Rooney, Hugh Arnold Semple, Robert Duncan Sloane, Walter Sleeth, Edgar Linton Thompson, Carl William Waldron, Ivan James Wigle.

To take over all written examinations—J. M. Cation, E. B. Cross, P. K. Grist, W. T. Irwin.

To take the year over Didactic and Practical—F. P. Brown.

Passed Intermediate Anatomy—H. M. Morrow, G. J. Steel, W. B. Wurtz. Passed Metallurgy—M. R. Billings. Passed Materia Medica—Chas. Lane, H. M. Morrow. Passed Histology—Charles Lane.

#### SECOND YEAR.

Passed all written examinations—Lester Bancroft John Freeman Blair, Jos. Arnold Bleakley, Clarence Edwin Brooks, Spencer Clappison, William Anderson Dalrymple, David Ward Duffin, Thomas Doyle Higginson, Archie Laughton Johnson, Charles Little, George Herbert McKeown, A. G. McKenzie, Lawrence Imrie Mills, Ben. F. O. Nott, James Gregory O'Neill, Francis Pollock, Wm Domonic Ramore, Henry George Wilkinson, Joseph Stewart.

W. A. Matheson passed in Chemistry, Prosthetic Dentistry and Therapeutics; prevented from writing on remaining subjects by death in his family. Charles Somers did not write.

To take further examinations—Anatomy, paper—J. W. Grainger, A. M. Morrow, J. E. Thompson. Anatomy, practical—D. E. Pettigrew, Chas. Lane, Chas. Somers, Prosthetic Dentistry—Wm. Chalmers, W. L. Cheney, R. Hamilton, W. H. McGuire, C. C. Maclachlan. Operative Dentistry—M. R. Billings, C. C. Maclachlan, H. M. Morrow, H. W. Reid, H. B. Rickard, L. Vosper, W. B. Wurtz. Practical Technic—W. H. McGuire, G. H. McKeown, H. B. Rickard, G. J. Steel, L. Vosper. Take over all written examinations—Chas. Lane, J. G. Roberts, G. J. Steel. Passed Intermediate Chemistry—R. M. MacFarlane, H. MacLaurin, J. A. Ross.

#### THIRD YEAR.

Passed written examinations—Earl Sheriff Ball, W. A. Black, Basil E. Brownlee, Rich. Morris Chambers, David Henry Dow, James Arthur Drummond, Hor. Fawcett Goodfellow, Robt. Milton Graham, John Thomas Grassie, Arthur Hamilton Hertel, George Noble Howden, Vivian Clifford Marshall, Alex. Wm. Muir, Robert James Mumford, Arthur Ed. Proctor, Wm. J. Sanders, Willmott Benson Steed.

Passed final Anatomy—K. E. Halnan.

Passed final Physiology, Surgery and Orthodontia—W. A. Black.

To take further examinations.—Chemistry, practical paper—

C. D. Bricker, W. B. Daynard, A. W. Lindsay, F. F. McIntyre, F. J. McMahon, F. E. Warriner. Chemistry, theoretical paper—C. D. Bricker, W. B. Daynard, K. E. Halnan, C. W. McIntyre, F. F. McIntyre, L. A. Maxwell. Chemistry, laboratory examination—J. T. Grassie, A. E. Proctor. Physiology—F. F. McIntyre, F. E. Warriner. Prosthetic Dentistry—W. B. Daynard, C. W. McIntyre, F. F. McIntyre. Operative Dentistry—W. B. Daynard, L. A. Maxwell. Orthodontia, paper—J. C. Crawford, F. J. McMahon. Practical Technic—A. H. Hertel, C. W. McIntyre, F. J. McMahon. Take over all written examinations—A. D. Chelderhouse, A. J. Martin, D. E. Pettigrew.

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DR. CALVIN S. CASE wishes to announce the removal of his office from the seventh to the eleventh floor of the Stewart Building, 92 State Street, Chicago, Suite 1120.

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### ROYAL COLLEGE OF DENTAL SURGEONS OF ONTARIO.

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Applications for positions on the teaching staff of the Royal College of Dental Surgeons, Toronto, as Lecturer on Medicine; as Lecturer on Orthodontia; as Lecturer on Dental History and Ethics; as Demonstrator of Bacteriology, will be received by the undersigned until August 10th, 1906.

J. B. WILLMOTT,  
Sec'y, R.C.D.S.

96 College Street Toronto.

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### ASSISTANT WANTED.

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A1 chance for a good assistant, wanted by P. O. Box 79, Neepawa, Man. State experience, salary and references.

# Dominion Dental Journal

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VOL. XVIII.

TORONTO, JULY, 1906.

No. 7.

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## Original Communications

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### SOME FACTS OF THE PHYSICAL QUALITIES OF CEMENTS, AS DEMONSTRATED FROM EXPERIMENTS.

—  
BY DR. GUY G. HUMZ, TORONTO, ONT.  
—

Read at the Seventeenth Annual Convention of Ontario Dental Association.

The experiments and tests which we have been making for some time are not complete, and we had expected to have a much better comparative test of the different cements now being used.

No preparation of cements as yet manufactured possess all the ideal qualities. An operator must exercise the greatest discrimination in taking advantage of the characteristics which each cement does possess.

A series of experiments was performed to discover if some practical application could be made of the qualities of the different cements now being used.

Cements are used: 1, fillings; 2, cementation of crowns and bridges; 3, cementation of gold and porcelain inlays; 4, orthodontia appliances.

The qualities of cement depend upon its application. Some are hydraulic, others non-hydraulic. Some have greater crushing strength, others greater tensile strength; some are apparently adhesive. Again we find a difference in the contraction and expansion of the different cements.

The material composing the filling, 1st, must be sufficiently hard to withstand the forces of attrition; 2nd, must have sufficient cohesion to resist crushing force and tensile strain; 3rd, must have either mechanical retention or adhesiveness.

Since there is no one cement possessing all ideal requirements, a study of experiments will show the physical qualities which each cement possesses, and will enable us to take advan-

tage of the cements possessing these qualities for the case in hand.

Little can be gained from information which the manufacturer gives. It should always be noted, however, if they state whether the cement is to be used as a hydraulic or non-hydraulic. We know that the base of all powders is the oxide of zinc and the fluid is phosphoric acid; these, however, are modified both to control the insolubility and setting qualities of the cement.

When alkaline phosphates, such as sodium phosphate, are added to the fluid they give a class of cements which are less soluble, porous, set slowly, and are non-hydraulic. They are not as likely to shrink or expand in either the dry or wet state. They crystallize and contract to several centres in the mass.

When non-alkaline phosphates are added to the fluids, the result is a non-porous cement and hydraulic; they crystallize and contract to one centre when allowed to set in the dry state, and tend to expand when allowed to set under moisture.

Zinc oxide modified with any of the metallic oxides, except, perhaps, copper, is weaker, wears away easier, and is more soluble. The finer the powder up to impalpability the stronger is the cement, and the more rapidly it sets. Very fine grinding, however, is not so strong.

Certain of the metallic oxides are added to the zinc oxide to modify the color.

The solubility of the cements has not been thoroughly investigated in these experiments, but from the paper of Drs. Hinkins and Acres the solubility of the cement at the gingival margin depends upon the products of bacteria. Cements wear away more from attrition than from their solubility.

In presenting the report of experiments as carried out the chemical side of the question has not been investigated, but simply the physical qualities dealt with, and although no positive conclusions can be arrived at at the present writing, inasmuch as it is not claimed that the experiments are strictly accurate, yet they are comparative, and some at least are confirmative of experiments as carried out by Dr. Poundstone, of Chicago, and Dr. Head, of Philadelphia.

It may be of interest to note just the manner in which the different cements have been tested:

In order that some practical value may be gained from the work already undertaken, it has been suggested that the commercial names be used. (Lettering of Dr. Poundstone.)

In the tests for inlays, three inlays were made to fit cavities in a piece of natural ivory 1-16 inch thick, and cemented in position with creamy mixes of Asher's, Zincoid, and Ames' inlay cements, and dislodged from the cavity with the exertion of the following forces: Zincoid, 36; Ames', 24; Asher's, 17.

*Description of Apparatus.*—Brass plunger, slightly smaller than cavity, was placed against inlay in the ivory, which was held in a vise, and spring balance attached which indicated the amount of pressure necessary to dislodge each.

In inlay tests it has been found that the fineness of the powder has more to do with the fine line to be obtained than the pounds pressure to be exerted. The reason for this is that two surfaces cannot be brought together closer than the diameter of the largest crystal in the media.

*Experiment:* Control of expansion by pressure.—Adhesion tests, made by cementing surfaces of vegetable ivory, slightly roughened by a rubber file, of 60 square mm. cement setting for about forty-eight hours.

*Description of Force and Records.*—Clamps.

*Tensile Strength or Briquette Tests.*—Briquettes of cements were made in a briquette mould,  $\frac{1}{8} \times \frac{1}{8}$ , and subjected to the tensile force with the following results:

#### DESCRIPTION OF GRIP AND RECORDS.

*Crushing Tests.*—Made on fillings inserted in gelatine capsules, giving a cylindrical filling 13-64 inches in diameter, to which crushing strain was applied at right angles to long axis, by means of a brass plunger  $\frac{1}{8}$  inch in diameter. Fillings inserted for twenty-four hours.

#### RE RECORDS.

*Attrition Tests.*—Brass dies, with fillings imitating as nearly as possible proximo occluso fillings, allowed to set for twelve hours, and placed in an apparatus in which they were moved vertically into a box containing quartz crystals, moistened with water at a pressure of  $3\frac{1}{2}$  lbs. for impacts.

In each case the cement was just stiff enough to barely flow from the end of the spatula.

*Lateral Motion:* Description of test.—Immersion about 15 minutes after insertion.

In considering the subject of cements it must be noted that cements vary, that is, batches from the same manufacturers vary, and it must be taken into account the different treatments cements receive at the hands of different operators. It necessarily follows that all will not have the same results.

DR. HUME.—It has been suggested that in these experiments we use the commercial names of the cements. The idea was simply to let dentists know the qualities of the cements they are using, and that is why we have tabulated them. It is not to increase or detract from the claims of the manufacturers, but simply because the cements are better known under the different names as printed on our charts here. Dr. W. E.



Cummer has spent a great deal of time in connection with the devices that have been planned in carrying out these tests. I think it would be quite in order for the Board to supply some of the different apparatus they have in connection with testing, and allow some who are interested in this work to go on with it.

The apparatus devised by Dr. Cummer was then exhibited, showing how the tests were made, etc.

DR. CLARK.—I have been using Britton's Vitrified for about ten years. It is a very cheap cement. I have been trying others, and am back to it now; I prefer it to any of the cements that I have now.

Stereopticon slides were then exhibited, showing the action of the steel spatula, and also showing the crystallization and other features of the various cements.

DR. CHARLES E. PEARSON, Toronto.—There are several propositions before the profession regarding the cements, one of which is in connection with the inlay. These tests for adhesion are all made under dry conditions, and left dry so that the vegetable ivory would not swell and break the attachment. It is scarcely safe to rely on the adhesion strength of Harvard being forty-two pounds in one portion of inlay. One reason is that Harvard is non-hydraulic cement, and the moment it becomes wet it loses its adhesive properties. Another is that many of these have no adhesion to gold as in a gold inlay, or porcelain in a porcelain inlay. They do when they are dry, but when they are wet they have not. So that these tests for adhesion can be considered of very little account in the cementation of an inlay. In relation to inlays which were made and forced out of a piece of ivory, you can hardly rely on that as adhesion either, because if we took the tube, and in that tube placed a plunger which fitted approximately, and then packed sawdust or some such material into the tube, we would be able to hold that rod mechanically in the tube. Now, there is not any doubt that our cements act as a mechanical media to hold the fillings in their place, entirely apart from any adhesive qualities which they may have. We might consider that water has undoubtedly a strong adhesive quality, and yet there is no mechanical force in water which would cement an inlay into a tube; so that this question of adhesion for our own practical purposes in the cementation of fillings and the sticking to the sides of a tooth must have some further experimental work upon it before we can regard these tests as final. In connection with the work that I have done, it does not amount to very much yet, but I will explain what has been done. It has only been done with several cements so far. I have here a little brass tube of a little more than half an inch in diameter, in which is drilled a core of one-quarter inch in diameter. The tube itself is as closely approximating a quarter of an inch in

thickness as it was possible to do roughly on the machine lathe, not being particularly expert at machine work anyway. But they all measure, within a few thousands of an inch, to a quarter of an inch, so that approximately the tubes are correct. They are correct enough to give us a definite idea of the expansion and contraction of cements. These tubes were dried, wiped out with chloroform or alcohol, and the mix of cement made in them, and set upon a glass slab, and smoothen down on the upper surface sometimes with a spatula, and sometimes with another glass slab, so that the surfaces were practically parallel. Then as soon as possible, after the cement was sufficiently stiff to measure, it was placed in a micrometer and measured, that is, before the cement set. This micrometer measures  $1/10/1000$ ths of an inch, and to show you the degree of accuracy which the instrument may have, it will measure a piece of paper which measures from 5 to  $6/1000$ ths of an inch in thickness; it will register the difference between one side of the paper and another of from 1 to  $3/10,000$ ths of an inch, so that you have an idea of the accuracy of the measurements they have, providing care has been bestowed upon them. We made in all about forty of these experiments with the different cements, and the results may be compared with the results that you get in plaster of paris, and show you how exceedingly poor our cements are when you compare them with the plaster of paris, if we had sufficient strength in the plaster to make a filling. Take Asher's cement to begin with. In all these experiments we used eight drops of the fluid from a small dropper. The first one was mixed with two grains of powder and eight drops of fluid, and was a very thin mix, too thin to be of any service from a practical point of view; too thin to cement an inlay. In that small tube, which measured approximately  $250/1000$ ths of an inch, or  $1/4$  of an inch, an expansion took place of  $23/1000$ th of an inch. You can imagine what that would do to your inlay if you put it in with it. That expansion took place in probably half an hour after the filling was inserted, and it was allowed then to contract as much as it would within a period of several days, and the contraction which took place amounted to  $2.7/1000$ , that is  $27/10,000$  inch. The next tube had three grains of powder and eight drops of fluid, and it showed an expansion of 7.7, followed by a contraction of two points. The next had three grains, and it showed an expansion of 6.2, and a contraction of 1.1. The next two tubes were made from the same mix, a double quantity of the fluid and the powder being used. There were  $3\frac{1}{2}$  grains to the tube, which gave a medium stiff mix; it might be suitable for an inlay if you could do it in a hurry. One of the tubes was placed under pressure until it had set. The other tube was allowed to expand, and after the pressure was removed that tube contracted the

same number of points as the tube which had been allowed to expand and then contract. So that you see, while you can control the expansion with pressure, it seems to make very little difference, for the contraction goes on just the same. The last tube of Asher's cement was a stiff mix, with four grains; it expanded 6.1, and then contracted 2.5. From these figures which are not to be taken as exceedingly accurate, but relative, because some of the mixes were made longer than others, some being mixed  $1\frac{3}{4}$  minutes and some mixed 3 minutes, and the temperature of the room probably was not the same in each case, however, the only practical conclusion we can draw from these experiments is that there is an inherent expansion and contraction in the material, and we cannot definitely say, so far as our experiments have gone, whether that is relative to the thinness or the thickness of the mix. The next cement that I have a record of is Ames' inlay. The first tube was 5 grains of powder and 7 drops of fluid, giving a very thin mix; and you might just note in connection with all the cements that we have been using that Asher's is very much lighter in weight, and that the quantity of powder is very much greater in each of the ordinary cements than the quantity that was used in Asher's. The medium mix of Asher's required about three grains; the medium mix of any of the others requires about six grains, so that the one is a very much heavier powder than the other. The Ames', however, is a thin mix, too thin for any practical value, although it gives a very hard result. It took about an hour to set. It expanded 4.4 and shrank 3.2. A grain more of powder with the same fluid expanded 1.3 and contracted 1.8. A grain still more expanded 1.5 and contracted 1.9. A stiff mix of 9 grains and 7 drops expanded 1.8 and contracted .9, and on a very stiff mix of 11 grains we failed to get the expansion, but it contracted .5. The result we obtained from Harvard was that a very thin mix expanded 4.4 and contracted 3.4. Another thin mix expanded 8.3 and contracted 5.2. A medium mix expanded 5.4 and contracted 5. A thick mix expanded 7.6 and contracted 5, and a very thick mix of Harvard expanded 9.8 and contracted 1.3. In most of these experiments the cement became loose in the tubes and was easily poked out. In some of them it needed no poking. In others, after they had been loose and had been in saliva for about a month, they tightened again in the tube, although they showed no change in the physical form on the micrometer. That may have been due to a corrosion of the brass tube. I have here a card with some of the results. Those were mixed early in March. The three top ones are all Asher's. There is then an Ames' inlay and two Fellowship and a Harvard. Asher's showed distinctly that they have absorbed coloring matter. Red ink was added to the saliva after they had been in

the saliva about a week, and that red ink remained there for about three weeks longer. The tubes were then taken out and the pellets were made sections of, and the Asher's all show considerable penetration of the red ink. None of the others do. I have here a thick mix of Fellowship. That thick mix is so brittle, having been dry, that it will crumble in your fingers. When it is in moisture it seems not to have the same action. I filled two tubes of Fellowship from the very same mix. One I kept dry and the other I put in saliva within a few moments after it was mixed. The wet mix shows an expansion of 1.7, and then a contraction of 3.6. The dry mix showed an expansion of .3, and then a contraction of 3.6. In both cases, one being wet and the other being dry, they showed the same contraction, and that contraction is much greater than the expansion, which is different from any of the others. A thick mix of Fellowship expanded 1.3 and shrank 2, so that there must be a considerable difference. Fellowship is supposed to be hydraulic cement, and these were kept moist, and they all show a greater contraction than they do an expansion. Just what that means in our practical work I am not able to say. I then went to the trouble of mixing several oxy-chloride of zinc, and the comparison is very valuable. The thick mix of the chloride of zinc expanded  $1/10000$  inch, and then contracted .3, that is,  $3/10,000$ ths. the other tubes, and it showed no absorption whatever of the red ink in the same time as Asher's absorbed considerable quantity. A thin mix of oxy-chloride of zinc expanded 1.3, and to date has shown no contraction; it is simply oxy-chloride. Take Merck's chloride of zinc and make a solution, and use the ordinary zinc oxide as you get it in the drug store. I then mixed several plaster of paris for comparison. A thin mix of plaster of paris expanded  $1/10000$  and then contracted  $1/10,000$ . A thicker mix expanded nearly  $2/10,000$ th, and then contracted  $2/10,000$ th. These four tubes which I made do not prove anything particularly valuable to us, other than a comparative value. Dr. Prothero, of Chicago, has made some valuable experiments with plaster, and finds there is considerable contraction where there is a quantity like an impression or of a model. The value of these experiments in our own particular work, as yet, we do not know. We do know this, however, that if you take a tube, such as I have taken, which measures  $250/10000$ th, and there is an expansion of  $5/10000$ th in that, we will say, then the relative expansion from these figures may be easily ascertained in an inlay; for instance where you have a cement line of probably  $1/500$  of an inch, if your cement expanded  $5/10000$ th of an inch to the quarter inch and you cemented an inlay with it, that inlay you had  $1/5000$ th inch in thickness of cement, you would naturally have  $1/25000$  of an inch of expansion, which is an exceedingly small expansion

to be dealt with. Whether that interferes with the adhesion of the filling that you make, or whether that difference would have any value in lessening the effect of the mechanical forces which that cement would exert in holding in the inlay, we cannot tell. The only thing we do know is that the cement does hold in an inlay, and that so far as we judge, it must necessarily be a mechanical and not an adhesive force which holds it. If we had time we might spend more on this, but I think we have had enough. (Applause.)

THE PRESIDENT invited questions on the subject.

DR. HERMISTON.—The two papers show the urgency of experimental work, that of Dr. Clark and that of Dr. Hume. I was impressed with the discussion of Dr. Webster on Dr. Clark's paper. I was also struck by this thought, that the essayist must have been using some of those narcotics, phenacetine, or something even stronger, the past few years. I think the Board have been very generous with the Faculty in past years, and this year in particular, of which I can speak confidently, in granting the Faculty any facilities they might desire in the way of experimental apparatus, and that these experiments had not been made earlier in the history of the institution I think is not the fault of the Board. I just wish to throw out this statement before the profession in order that they may see that anything, within reason, the Faculty may ask for in the future the Board would grant to them, and that the profession at large may not blame the Board if they are somewhat generous in their furnishings of the College. The curriculum has been somewhat changed during the past eighteen months, and perhaps it will be changed to a greater extent in the near future; but I do not like the impression to go abroad to the effect that they have not been treated as generously as they should have been by the Boards in the past. I think the Faculty will bear me out in saying that they have had, on nearly every occasion, nearly everything they have asked, for the better fitting of the College and the better education of the students; but these papers show to the profession the need of further experimental work.

DR. WEBSTER.—In any remarks I made in discussion I did not want it to be understood that the Board have been in any way interfering with or hindering the experimental work that might be done; but rooms in the building are not provided where such experimental work can be carried on. Instruments are not provided, nor time by any of the members of the staff. Those are three important things, a place in which to do the work, instruments to do it, and time.

DR. HERMISTON.—Have they all been asked for?

DR. WEBSTER.—I cannot say personally that they have been asked for, because we have never been consulted. I do not wish

to say it just that way; I mean that the way to find out whether those things ought to be conducted, or might be conducted, is to find out the fact who would conduct them. I must say the Faculty have never really come up and asked for those things. I think they have not; but if that is all that is required, they will more than be asked.

DR. HERMISTON.—The Faculty should give the students the full benefit of their views, and if they have not asked for these appliances so that they could instruct the students in the best possible manner, the Faculty has not been doing their full duty. Thus the Board have not been at fault, but I would throw the blame back on the Faculty.

DR. SMITH.—When we come to consider the time and place and instruments that are necessary to conduct experiments, we arrive at a just appreciation of the credit due to these gentlemen for these experiments. I feel that I must express my thanks to the essayist and to these gentlemen who have evidently co-operated with him in all the experiments that have been made in this direction, and to say how much I appreciate their work, and to wish them success along this line, and that the future report from them shall give satisfaction to themselves as it will to the profession.

DR. McELHINNEY.—I would like to express my appreciation of the work that has been done. I have done a little experimenting myself in a small way, and only those who have done experimenting have any idea of the labor. It is not labor that can be paid for; it is not labor that I think the Faculty can be expected to do. I think in colleges such work is done by Fellows who are given time and opportunity to spend in that direction; and it is work that cannot be bought. It must come from those who have the spirit to do that sort of work. It involves all sorts of hours and all sorts of labor. There are experiments that will keep one hustling around day and night for days and weeks together to keep things at certain temperatures, and to watch that other things that he knows nothing about would not happen and throw the whole work into confusion. I think these men who have carried on work of this description are real pioneers. Supposing that nothing definite comes out of it in a month or in three months; they are sure sooner or later to come on truths that will be useful. They are really the men from whom we get that which is most valuable, and their services cannot be ordered and bought and sold like the services of the rest of us under ordinary circumstances. I think that we cannot appreciate their work too highly in this connection. (Applause.)

THE PRESIDENT.—If there are no other suggestions, I might say that this practically closes our program. I will call upon Dr. Hume to reply to the criticism on his paper.

DR. HUME.—I am sure I speak for all those that have taken part in the experiments, that they have practically got the good out of them. Reference has been made to the Faculty of the school. As some of you know, I am on the staff, and the gentlemen whose names have been mentioned are also on the staff. I might say that there are about twice the number of the men conducting these experiments, although probably some of them have not taken as active a part as some others, yet they are all more or less interested in them, and I do not think that this could be considered at all as work of the staff of the College. It is the work of members of the profession. I might just mention that that work has not been carried on in the College to any great extent. But I do not think that this work should be considered the work of the Faculty at all. It is individual members of the profession that have taken part in this work. In speaking of the facilities we have for testing, I did not know the Board would give us those for the asking. I am sure they will get a requisition for them all next year. (Laughter.)

THE PRESIDENT.—Before adjourning, Dr. Mabee has a suggestion to make to this society which I think would be a very valuable one, and I have asked Dr. Mabee to present his ideas to you.

DR. A. H. MABEE.—We have heard considerable during the sessions of this convention about the importance of educating the public. We all know that the proper time to influence and educate is in the early years of life. In the public schools of this Province at the present time, there is an effort being made in that direction. In the text-book on "Physiology and Hygiene," instruction is given to the youth of this country concerning the nature of the teeth, their structure, and how to care for them.

To-day I showed this part of the book to a number of the members of the profession, and all were unanimous in stating that it was totally unfit to teach to our children. My suggestion is that a committee of the members of this society be appointed to bring the matter to the attention of the Minister of Education, and to submit what they consider a proper and adequate description, with suitable illustrations, to be put into this book when it is revised. I have not carefully looked over the other part of the book, but I think likely it needs revising too, and perhaps the Medical Society, if informed, will do their part, and it could all be revised at the same time. Just to illustrate my point, I will read you two or three paragraphs that will show the necessity of revision. This book is taught in the public schools of the Province of Ontario, and this is what is said about the structure of the teeth. (Reading extract beginning "a tooth consists," etc.) Mention is made of two substances, ivory and enamel. This is confusing to the children. Then we have on the next page this statement, "When a permanent tooth is

removed," etc. Another point I would like to mention is that there are a number of cuts in the book showing the individual teeth and their arrangement, but not one showing the structure of a tooth, or the proper relation of the enamel, dentine, pulp, and the cementum. What led me to notice this was my being called upon by the principal of the public schools of my own town to give a talk to the children on the care of their teeth. I drew a diagram of a tooth, showing in colors the relation of the different parts, and after I gave the talk to the children of the third and fourth books, the principal said, "One look at that chart is better than half an hour's talk," and also that I had made clear a good many points on which they were confused by studying this book. My suggestion is that this Society take some action to have this remedied.

DR. WEBSTER.—I move that the President appoint a committee at his leisure to look into this matter.

DR. SPARKES seconded the motion.

The motion was carried.

DR. PEARSON suggested that we present to Dr. Peeso, of Philadelphia; Dr. Jackson, of New York, and Dr. Burkhart, our gratitude and thanks for the efforts they have made in our behalf.

DR. HUME seconded the motion, which was carried amid applause.

THE PRESIDENT presented to Dr. Jackson and the other visiting members of the profession a vote of thanks, trusting they would long be spared to have an opportunity of being present many times at the convention of the Ontario Dental Society.

DR. JACKSON, responding, said: We are only too glad to be here to listen to such interesting discussions as we have had this afternoon. I appreciate that, and we are very glad to be able to meet with you. I always felt it was my duty to meet with my Canadian brothers here and tell them all I can. I hope they will follow me closely to-morrow. I shall tell them lots of things they do not believe; but the more they look into it they will see there is a foundation to what I am going to tell them. I hope they will be at my clinic to-morrow morning and pick all the flaws they can, and tell it out loud so as to give me a chance to make reply. (Applause.)

DR. BURKHART.—I thank you for the kindly courtesy which has been extended to me and my associate brethren from the United States, and I assure you my visit here has been one of pleasure, and I am sure will be long remembered on my part. I want to promise you that I will not let another twenty-two years pass before I come back to Toronto. (Hear, hear.) This is my first visit since I came here in 1874, and I made some very pleasant acquaintances at that time, as I certainly have



done again to-day among the younger men of the profession, and I have enjoyed the meeting here. I know you are all interested in the subject which I wish to present to you to-morrow. We should reach for the highest ideal in dentistry, whether in operative dentistry, in orthodontia, in crown and bridge work, or whatever it may be; and I believe I am in a position to bring to your notice to-morrow something in the line of bridge work that will interest every man who takes an interest in fine work, which is a credit to himself and a benefit to his patient. (Applause.)

DR. CLARK.—There is one little matter that I think might be explained with profit to the meeting. The idea got abroad for a little while that these experiments were done as the work of the Faculty. Then it was explained later that it was the work of a few members of the profession, which is very true. I might say that a few modest young men, of whom I am proud to be one—(laughter)—sometime ago formed themselves into a little Dental Club, limited to small membership so that all could take part and carry on experimental work, read papers, etc. We did not know whether we were going to succeed at first, and so did not say very much about ourselves. We have felt that we, as individuals, were benefited very much by belonging to this little club, and I think that the work that has been exhibited, the experiments and results, would justify to the whole body the existence of this small club. If the club were allowed to grow very large it would suffer the same disadvantages of large societies—that a few do the work and a great many simply listen and do nothing. I would like to express the hope that in a place the size of Toronto we may have several such clubs, and that in smaller places where they have anywhere from six dentists upwards, they form a club or clubs to carry on such work. I spoke to some of the members of this little club of ours to see whether they would approve of me speaking of it, and they were good enough to do so, and I would like to say that this work has been carried on by the members of this organization, which is called the Odontological Club. (Applause.)

DR. WEBSTER moved that the meeting adjourn.

DR. SMITH seconded the motion.

The motion was carried, and the session closed at 6.30 p.m.

## DENTAL FEES.

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BY P. ST. C. SMITH, M.D.S.

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The subject of fees, while perhaps as old as that of root treatment, cavity preparation, etc., is nevertheless one of the most important questions before the profession to-day. And the great majority of dentists throughout the country will agree that in the matter of professional remuneration an unsatisfactory condition exists, and there is room for great improvement.

It is a wonder that the profession have not long ago arrived at some more uniform and systematic plan for computing fees than the present unprofessional and unbusinesslike one.

Why is it? Are dentists notoriously poor business men, or are they not honorable enough to live up to a uniform tariff of fees. Of course, the locality, class of people and grade of work make a variation in fees; but there is no excuse for the wide divergence that frequently confronts us.

In bringing this question before the profession to-day, the writer does not aspire to a long, flowery paper, or pose as an authority, but merely presents a few ideas that have occurred to him from time to time. And he does so in the hope that it may be the starting point for something more definite in the business relations of ourselves to our patients than the existing slipshod methods.

Right at the start it is not too broad a statement to say that the present dental fees in Canada are too low by fifty per cent. Secondly, only the dentists themselves are to blame for this condition. Fees have advanced very little, in fact; for some operations are lower than they were ten years ago, while our living and office expenses are fully fifty per cent. more. This does not mention the higher grade of work and skill required in modern dentistry, which should be the basis of all fees. The more exacting work of to-day demands more skill and consequently larger fees than those of a decade ago.

We overlook the fact that when we are getting a good fee we can do better and more difficult work. We have more time for study and more time for recreation, and can thus give our patients the best possible services by keeping ourselves in the best condition mentally and physically.

We hear of charity work. This is commendable, and we ought to help our deserving brother man; but with the present average fee the rank and file have their own bread-and-butter problems. If fees were larger we could devote a couple of hours per week to this work.

It is humiliating to note that very often fees of one of the learned professions are the same or less than the wage of the artisan. A blacksmith's time is rated at fifty cents per hour. Do a little arithmetic. Add the number hours you have worked last year, then your cash receipts, and divide and note the result. You will perhaps be surprised to see at what a small fee per hour you have been doing all that nervous, exacting work.

If we do not value our skill and time *ourselves*, our *patients* certainly will not. And this is wholly the fault of the dentist himself, *for no patient will pay more than is asked of him.*

An incident illustrative of this occurred a short time ago in the writer's office. A patient presented a Logan crown to be reset, and in the course of conversation mentioned that he had only paid \$1.75 for it. When told in a tone of surprise that \$5 was a minimum charge for any kind of crown, he replied: "Well, I paid him all he asked for it." That dentist was a fool, as his services were worth six and seven dollars and the patient would as willingly have paid it as \$1.75, besides, the patient did not appreciate it, and very likely classed the dentist as a cheap jack.

Let it be repeated, that the dentists themselves are to blame for the existing rate of fees, and the remedy lies entirely in their own hands. The writer found at the late convention that "fees" was a live question, and all agreed that a big change should occur at once.

The great difficulty lies, of course, in devising some scheme for a reasonable scale of fees. But if dentists are gentlemen, as professional men should be, this should be an easy matter. There should be some way of dealing with the "cheap jack" and advertising quack whose fees are fully a 100% higher than those they advertise. These advertised fees are a standard only to be followed by the honest dentist, never by the quack. If no other pressure can be brought to bear on him, his diploma should be cancelled.

Again, while the great majority of practitioners are good, conscientious men, there are a few who stab their confreres in the back, besides cutting their own throats, by doing little, underhand things. These men appear very ethical, and at the same time do extracting, treating and cleaning free as a catch-penny patient did not appreciate it, and very likely classed the dentist as a cheap jack.

device. On p. 61, Feb. D.D.J., Dr. Junkerman has some hot shot for this class of men.

While these and other difficulties present themselves, still it seems feasible that a great improvement could be made in this branch of our practice. And now our country is enjoying such unbounded prosperity, the time seems opportune. Why not begin by organizing in the local societies, then appoint delegates

and discuss the matter fully at the next meeting of the Ontario Society?

These few ideas have occurred to me lately:

1. A dentist should charge for everything he does, even if the fee is only 25 or 50 cents. In the course of a year he does a host of small operations which, with a small fee for each, would amount to quite an item in the course of a year; and at the same time would impress the patient with the fact that time and brains are too valuable to be given away these days. Moreover, patients expect to pay. A small charge should be made for examination and consultation, as these require time, and only one who is qualified can do these things. And don't be afraid that your fee for some painstaking operation is too large. How often have we all had the experience of a pleased patient saying: "Well, doctor, that is better than I expected. I thought it would be twice as much as that."

2. Never under any circumstances guarantee any operation. Give the public to understand that they are paying for professional services, not buying an article, and that you are giving them your best possible services. At the same time be courteous enough to rectify any mistakes or repair any work that might not have reached your ideal. The lawyer gets his fee whether he wins or loses; the physician gets his fee whether his patient dies or recovers, both because they have given the best services to the case, and did not guarantee anything. The public are too long used to the idea that they will pay for a piece of work when it fulfils their standard of a test.

3. Don't boast of the thousands you are making every month. It is bad taste, and people will look upon you as a robber or a liar, and your business troubles will increase accordingly. All truly professional men keep the business side of their profession strictly to themselves. We are judged by our worth as an operator and a gentleman, not by the dollars we make.

5. Never haggle with a patient over the fee. Nothing is so unprofessional or demeaning. Have a just fee in accordance with the services rendered, and stick to it. The public are always suspicious of and lose respect for the man they can beat down.

6. Extracting free, when intending to get a plate. Country dentists have more of this to contend with than their city brethren; but it is a thing that needs remedying at once. Some lunatic started the idea years ago, and now it is a rigid custom. Why will any sane man extract free ten or twelve foul teeth or roots, often a dirty and risky chloroform case, calling for large expenditure of time and nervous energy? Very often no deposit is made, and the patient fails to return to have the denture inserted. A fee should be charged for the operation. This is independent of the rest of the work, and is only fair to those who pay the same fee for the denture when they have no teeth

to extract. Another case is where teeth are treated without extra charge when filling. This seems very much like quackery. And it is hoped that no self-respecting dentist does this class of work for nothing. It is scientific, and should demand a good fee. Also, the average patient is pleased to have a tooth comfortably treated and is willing to pay for it.

7. Cash basis. Isn't it possible to have our practice on a cash basis, each operation to be paid for when completed, or, at the most, within thirty days? There is no reason why a dentist should wait six months or a year for his money. Very often that patient will pay cash at a departmental store for an article that cost five times the amount of his dental bill, or pay cash for a pleasure trip, while he keeps his dentist waiting for a bill one-quarter as large. The writer fails to find any valid reason why professional men should be paid only after all other things have been settled for. We have bills, and often large ones, that have to be paid.

"Promptly paid is twice paid," and as a rule a patient is more pleased and satisfied with his work if he pays cash. It may be superstition on the writer's part, but he invariably finds that a patient who pays at completion of work rarely returns to complain. Also, while a patient is owing you he will not have more work done, or else will go to some other office to have it done. Nothing in the whole practice of dentistry will be found to be so satisfactory from every point of view as conducting the business part of it on a cash basis. Why can't something be done to establish a schedule of fees and a cash system? Surely it would not be much trouble for the dentists of Ontario to have an agreement among themselves along these lines. They have it all in their own hands, and should work in harmony with each other. Emphasize the idea of fraternity more, and help each other. This last sentence brings out the thought that we ought to have a "black list," so that we can protect ourselves against dead-beats, slow pay, etc.

In closing, do not criticize this paper too closely, but use it as a starting point in bringing about a more businesslike method of carrying on our profession.

## CARE OF CHILDREN'S TEETH.

BY M. P. CORRIGAN, D.D.S., STRATHROY.

Read before the West Middlesex Teachers' Association, May 3, 1906, in Strathroy.

In regard to this subject of "The Care of Children's Teeth," I may say that I attach great importance to it. So much of an individual's after-life depends on the care, education, training and guardianship of childhood that we cannot very well overestimate the value of these things. And because among children there is no more prevalent disease than decay of the teeth, I maintain that their care should be considered seriously.

Examination has shown that fully 86 per cent. of school children have decayed teeth. This is considered so important a fact in certain European countries, that it has been deemed wise by the department of public health to have these teeth examined by properly qualified dentists at stated intervals. Those in authority have recognized the fact that without good teeth these children cannot properly masticate and assimilate their food, and for this very obvious reason they can never become as important or useful citizens as they might under different conditions.

Every dentist has had the pleasure of seeing patients improve very materially in general health and appearance, after having had their diseased and decayed teeth restored to a condition of health and usefulness.

Now to-day, I would like to talk very practically to you about the teeth and mouth, so that you may be enabled very easily to advise and direct your pupils in the care of these organs, and in so doing I know that you can render them a great and good service.

A noted physician's constant advice to his son was, "Keep your back straight." The advice was good, and it should be given to every boy and girl, but it is not one whit more important than if he had said, "Keep your mouth clean."

We hear a great deal said about clean hands and a clean heart. I believe it is just as important to emphasize having a clean mouth.

When we consider that the mouth is the portal of the body through which all the food supply passes, to nourish and build up this body—that all that enters there contains the sum total of the blood supply, is it any wonder that we emphasize its cleansing. Some people take great care to prepare clean food—served on clean plates and eaten with clean silver; and then immediately defile it by thrusting it into filthy mouths. Do not think this is

a rare happening. It occurs every-day in thousands of homes, where to all outward appearances people are scrupulously clean.

When we arise in the morning go to the mirror and protrude the tongue. Examine it carefully. You will find it covered with a viscid coat of brownish material, which you may partially scrape off with the blade of your penknife. This deposit is composed of insoluble food particles, saliva and precipitates of the saliva, and in it is a supply of bacteria or germs. The deposit covers the tongue, the teeth, the gums and all of the surrounding tissues. Food as food, and in its proper place is not filth, but if it stays for hours in the mouth and the process of fermentation takes place, it becomes filth, and it has no use or economy. It should be removed like any other kind of filth. It has become a menace to health and to normal conditions. If left there it defiles the food taken into the mouth, and no one would for a moment eat food with which this filth were mixed outside of the mouth. Not only does it defile the mouth and stomach, but when left around the teeth it helps to make an ideal home for the germs which indirectly cause decay of the teeth. The mouth is in this way kept in a chronic condition of filth; disagreeable and fetid breath results, and these conditions, when accompanied by a mouthful of decayed teeth, gradually but surely undermine the general health, and there is developed conditions which lead up to general debility, anemia, septicemia, chronic dyspepsia on the one hand or diphtheria and pneumonia on the other hand.

Before proceeding with specific rules for the cleansing of the mouth and the care of the teeth, let me name some reasons why the teeth should be properly cared for.

So as to prevent pain and suffering from toothache, much of which may lead to impairment of the health.

So that the child may be able to properly masticate its food, and in so doing nourish the body.

In order that the temporary teeth may neither be lost too early in life nor retained too long. By being lost too soon the jaw develops unevenly—the permanent teeth may not have enough room and the facial expression may be completely spoiled. By being left in too long the permanent teeth may be prevented from ever erupting, or, as is more likely, they do erupt, but they come in so much out of place that the child's appearance is greatly altered.

So that no large cavities may form—a small cavity does not so much weaken the tooth, and small fillings do not much disfigure the patient.

In order to prevent the humiliation of losing the natural teeth and the inconvenience of wearing artificial ones. That a youthful appearance and beauty of face may be preserved.

Hundreds of young people have by neglect been robbed of

whatever beauty they once possessed by their teeth being neglected so long that they were forced to lose them early in life before the contour of face and the lines of the features became mature and fixed. Could anything be more humiliating and chafing to a sensitive nature?

And now, what instructions could you as teachers give to your pupils to prevent a great deal of this pain and trouble.

1. That the teeth and mouth should be thoroughly cleansed at least once a day, and oftener if possible. The best plan would be to cleanse the mouth before breakfast—after each meal, and before retiring. How should this cleansing be done? Well, in the morning, a tooth brush should be used vigorously on the teeth, gums and tongue. A plentiful supply of good fresh water should be used, and I would advise a pleasant tooth paste like Sanitol or Euthymol. After each meal the mouth should be thoroughly rinsed with clear, cold water, and after all food particles are thus removed, the teeth may be brushed with clean water. This rinsing and brushing prevents the accumulation of much filth and prohibits the process of fermentation in the mouth cavity.

2. Tell them that a tooth brush with fine firm bristles is the best. One rather small is better than a large brush because it can be used better between the cheek and the teeth.

3. The teeth should not be brushed with ashes, charcoal, salt, soap or gritty substances. These injure the enamel, while the soap injures the gums. Never brush against the gum margin.

4. Encourage them to frequently examine their teeth in the mirror, to be on the lookout for cavities—to distinguish between permanent and temporary teeth—and to see that their teeth are free from stains and deposits of tartar.

5. Make plain to them the superiority of the natural teeth over artificial teeth, as far as beauty, comfort and utility is concerned.

6. Impress on them the advantage of frequent periodic visits to their dentist for examination of the teeth and the removal of tartar.

7. Tell them that the very poorest teeth, if taken in time and properly cared for, are so good that it pays to have them attended to. Often mothers of children, where they are well able to pay for treatment, will tell you that they intend to allow the teeth to go uncared for, as they are not worth filling. This occurs often from a lack of knowledge, and much to the chagrin of the poor children they are forced to lose their teeth.

8. An aching tooth may be treated and made permanently useful.

9. Abscessed teeth may often be treated and saved.

10. It is not dangerous to have an abscessed tooth extracted. The danger lies in not having it extracted if it is necessary, or in not having it treated before blood poisoning develops.



11. Tell them that they get four permanent molars—one on each side above and below—when they are six years of age. That these teeth are often mistaken by mothers for temporary teeth. That often they are allowed to go uncared for until they have to be extracted. That the loss of these—first molars as they are called—has a tendency to weaken and deform the jaw and robs the face of its beautiful contour and fulness.

12. That neglect makes it necessary to have large unsightly fillings when, if taken in time, the fillings would be small and not so unsightly.

13. That some people's teeth require more care and watchfulness than others.

14. That food properly masticated is far more beneficial than food swallowed without thorough mastication.

15. That bad breath can be overcome and prevented by great care of the mouth and teeth.

16. That a tooth that loosens in its socket, can after be tightened and restored to usefulness by care and treatment.

17. That it is just as important to save the back teeth as the front ones.

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### CARMICHAEL ATTACHMENT.

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BY A. H. MABER, GANANOQUE.

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Read before the Eastern Ontario Dental Association.

The Carmichael attachment is a gold inlay especially applicable to cuspids where an abutment is required without destroying the pulp or mutilating the appearance of the tooth labially, as in the application of an open-faced crown. A shallow but distinct groove is cut, with a thin stone commencing at a point a little nearer the cutting edge than the gingival border on the lingual surface of the tooth. The groove is kept parallel with the labial surface of the tooth, and is extended with a fissure, but approximately each way until it just meets the gum on both sides. Undercuts are to be avoided, and all margins made solid and smooth, yet distinct. The lingual surface below the groove should be ground down so that the matrix comes to the gums between the grooves, without springing out of shape. Enough should be removed to allow the solder to stiffen the inlay sufficiently to make it strong where the lower teeth approach it. The idea is to so locate the groove that the stress of mastication will keep the inlay in place. Small pieces of clasp metal are laid in the groove, and just enough solder melted around them to stiffen the matrix. One side should be done at a time and tried

in to see that no change has taken place, when they may be joined and the groove filled up with clasp metal and solder. A thick coating of a solution of whiting should be painted on under side of matrix to prevent solder getting out of place. A nest of fine binding wire is the best method of carrying the matrix to the heat. This may be used as an abutment for a lateral or end of bridge.

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## A POINT IN THE RETENTION OF LOWER DENTURES

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BY DR. MORROW, MAXVILLE, ONT.

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Read before the Eastern Ontario Dental Association.

*Gentlemen*,—It is not my intention to give a lengthy paper on this subject, but to show what I consider to be a valuable point in the retention of lower dentures.

About five years ago a lady called at my office to have me construct for her a lower denture. Upon examination I found that the alveolus from the region of the first bicuspid on either side was almost completely obliterated, and in the region of the anterior teeth there was a flat ridge raising about one-fourth of an inch above the attachment of the buccal and lingual muscles.

I took great pains in constructing the denture after the ordinary method, paying particular attention to the articulation, and making the teeth a little shorter than they really should have been for appearance sake, to reduce the leverage as much as possible, and sent my patient home with instructions to exercise patience and perseverance for a couple of weeks, and, if she were not getting satisfaction, to return. I might say that I really expected her to return. When she did return she complained of the denture sliding from one side of the mouth to the other.

I again examined the mouth, and thought that it might be possible to extend the inner flange of the denture back inside the ramus to near the anterior pillar of the faucæ. I then took an ordinary impression tray and some wax and made the extensions on the tray. I then took the impression, and to my satisfaction found that I had a splendid impression of the process and the inner part of the ramus, and that the patient experienced no more unpleasantness than in the ordinary way. I constructed the denture from this impression, and found that the patient could wear it with much comfort. Consequently, I have been using this method ever since when I met a case with a poor process.

I might say that I have noticed that where the alveolus is

badly absorbed, it is much easier to get an impression of the inner part of the ramus. This method not only prevents the denture from moving from side to side, but it also prevents a backward motion; in fact, it places the denture, as it were, within a dovetailed space.

Now, having constructed a denture after this manner, it is still all important to see that the articulation is perfect; because a lower denture has not so much retention, even with this method, as has an upper. Therefore, it is always the weakest and will be the first to move. Here is a model with denture waxed upon it which I will pass around so that you may be enabled to understand what I mean should you not have gathered my meaning from this paper. Thanking you one and all for your kind attention.

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## A CHAPTER OF DON'TS.

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BY A. D. MCCORDICK, NORTH GOWER.

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Read before the Eastern Ontario Dental Association.

*Mr. President and Gentlemen,*—In presenting this paper I do not wish you to understand that it is something new and entirely original. Not so; but it has been said the sins of the dentist are those of omission and commission; therefore, to remind us of our duty, occasionally, should not be out of place.

Don't keep an untidy office, but have all the furniture you need, and let it be expensive, if you will; but avoid leaving the impression that some of your family are in the furniture business.

Don't leave extracted teeth or dirty instruments lying around, or, as we have seen, bloody towels.

Don't make an unnecessary display of instruments in order to impress your patients. That day is past.

Don't have half a dozen patients in the waiting-room at one time. It worries the operator, and makes him nervous.

Don't use old, black instruments, when you can have them renicked for a trifle.

Don't neglect to supply an abundance of good literature for use of your patients in the waiting-room.

Don't ever go to the chair presenting an untidy appearance. Be scrupulously clean about your person, and see that your finger nails are properly manicured.

Don't use an overdose of perfume on your hands; a few drops of Florida water in the water in which you wash, or a little talcum powder dusted on the hands will suffice.

Don't operate in a heavy coat; one of light washable material is preferable.

Don't on any account use tobacco or alcohol between the hours of 8 a.m. and 6 p.m.

Don't argue with your patient about fees. It is better not to name your fee till the operation is completed; but if forced to do so, state it as only an approximation, especially in gold work.

Don't send a new patient away without doing something for him, even if it is only an examination of the mouth. You may impress him with your personality, and thus insure his return.

Don't lose your patience; it does not pay. Nervousness on your part will make your patient nervous.

Don't use the forceps too promiscuously.

Don't give your time and advice for nothing; if you don't value them yourself, how can you expect your patients to do so?

Don't fail to be punctual in keeping your appointments, and require punctuality from your patients.

Don't fail to observe the code of ethics. One man never built up a reputation by running another man down.

Don't lessen your professional reserve by familiarity with your patients.

Don't leave the impression that you are slighting your work by undue haste.

Don't allow your patient to dictate to you how a piece of work should be done. Give them to understand in a gentlemanly way that you are the operator, and that you are master of your profession.

Don't keep your patient in the chair longer than is really necessary. It is a great relief to many to know that the operation is over.

Don't use your patient's head for an arm-rest.

Don't ever deceive a child by telling them the operation won't hurt. It is better to say it may hurt a little than have the child mistrust you ever afterwards.

Don't lower the fees. A cheap man always draws around him an undesirable class of patients.

## POPULAR DENTAL EDUCATION.

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BY MARK G. McELHENNY, D.D.S., OTTAWA.

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Read before the Eastern Ontario Dental Association.

At the risk of being called an enthusiast, I wish to again call your attention to a subject that has interested me for some years—that of popular dental education.

In his able address as retiring president of the Ontario Dental Society, the late Dr. Mitchell, whose presence we shall ever miss so greatly, said: (See DOMINION DENTAL JOURNAL, March, 1906.)

"Gentlemen, along the line of the education of the public, there is an immense and remunerative field of labor for every dentist interested in the advance of the profession. This may be accomplished in many ways—by instructing the patients in the office, and by delivering short talks. There are in every town literary clubs or clubs of some kind where the dentist could give a short paper along educational lines; and, best of all, I believe there should be a dental journal that could be sent to the homes of the people. If a journal be impractical, the same kind of educational literature sanctioned by some body of officials should be distributed."

At the annual banquet of the Ontario Dental Society, Dr. Moyer, whose authority is unquestionable, said:

"Some years ago Dr. McElhenny read a paper on the necessity of educating the public as to the possibilities of dentistry. At the time, I was not very enthusiastic, not because the paper was not well written, but because I thought the time was not opportune, nor the necessity very great. But I want to say, seventy-five per cent. of the people of Canada do not know that it is possible to crown a root, do not know that it is possible to treat an abscessed tooth, do not know there is such a thing as bridgework. If that is the case, these people should know, and some means of educating them should be taken."

Besides these definite and clearly expressed opinions, delivered publicly, the private conversations which I have held with many prominent dentists upon the same subject lead me to the belief that there is a great necessity, an open field; and all that is needed is a systematic effort on our part, and you well know, gentlemen, that the only way in which to accomplish an object is to attack it with a definite and systematic policy, which can apply all the forces necessary in the most effective manner and eliminate the enormous waste of energy which results from desultory and haphazard efforts, however well intentioned.

Now, gentlemen, I wish to tell you that we must awaken. It

is not sufficient that we should be abreast of our age; necessity forces all men to an approximately modern position; but we must look ahead. We must not be afraid to be first. We must see that progress is inevitable, and that systematic effort in a definite direction is as sure in its fruit as is the cycle of the seasons and the continuance of the globe itself.

I wish to tell you also, gentlemen, that I have made some study of this subject of popular dental education, and that it is an important subject, a vital subject, and that so long as we neglect it we are robbing ourselves and voluntarily standing aloof from our proper heritage—so long as we neglect it, I tell you that we are suffering in prestige and in pocket.

This scheme which I bring before you is no theoretical panacea requiring ideal conditions and ideal men. It is the application of a well-recognized and long-applied commercial force—the principle of advertising to education.

You all know that were we to form a company with large capital and exploit a nostrum for the cure of some common ailment that the returns would be as sure as day and night, and directly in proportion to the amount of printing ink used. The application of skilful advertising is, under modern conditions, a sound commercial method, and all that I desire to do is to apply this immense force to the betterment of our profession and the alleviation of dental suffering.

We in Ontario occupy a unique position. We, constituting the Royal College of Dental Surgeons, own and control a college and the whole profession in our province, and we may proudly boast that it has never fallen into the position of a political tool, nor has it been used for the furtherance of personal or selfish ambitions. This speaks volumes for the integrity of those who have composed our governing boards.

Having this institution, with its immense powers, its unimpeachable record and its financial solidity, under our control, we are in a position which no other professional body ever before occupied in any country.

It is possible, gentlemen, without any legal difficulty, without any expense to the individual practitioner, and without any extra labor on the part of any but a properly constituted committee, to turn this immense force into the direction of popular dental education, and completely revolutionize the status of dentistry in this province in a surprisingly short time.

Gentlemen, I assure you that I believe that the average service rendered by the dentists of Ontario is equal to that rendered by any dentists in the world.

The difficulty is that the people as a whole do not know what the possibilities of dentistry are, and, moreover, they have no proper appreciation of the value of the services rendered.

Seventy-five per cent. of the dentists in Ontario are to-day

called to perform but the simplest operations, and are expected to do so for fees so low that for a lifetime of one of the most toilsome duties that ever man undertook they never expect to reap anything but the barest livelihood. Is this thing right? Does it look just?

A young man graduates from our magnificent School of Dentistry. He is skilfully trained in an exacting profession. He has spent much time and money to acquire the most modern knowledge and the most modern methods. He is as fully equipped as any dentist in any country. He has youth, energy and ambition.

In seventy-five per cent. or more cases he settles in one of the smaller cities, towns or villages, and what is the result?

Day after day, week after week, year after year, he is called upon to extract teeth, make rubber plates, and put in amalgam and cement fillings. There is no crownwork, no bridgework, no porcelain, no treatment of dental lesions except pulpatics, no orthodontia, nothing to test his skill or call out the best effort that is in him, and in addition to this he is frequently badgered out of a part of the small fee which he humbly asks—he, the professional peer of any in the world, reduced to almost begging for a living! What wonder is it that he becomes discouraged and forgets his splendid training, and loses the value of his great advantages at the start! This is no fancy-picture. It may be strongly put, and in practice it may shade off into less stringent conditions, but it is none the less true. Even those practitioners whose conditions are less difficult meet with more than enough instances to convince them that the public is woefully ignorant both of the possibilities of dentistry and the value of the services rendered.

Gentlemen, I ask you if this is as it should be? In this twentieth century, in the banner province of Canada, the country which is to become, in fact is becoming, a large and important factor in the world of nations, should such things be? I say, No! And further, gentlemen, I say that we have the remedy in our own hands. As I before remarked, our conditions are unique. No other province in Canada, no State in the Union, no other country in the world occupies the peculiar position with regard to any profession which Ontario occupies in relation to dentistry, and it is just on account of this unique position and this peculiar relationship that we, the dentists of Ontario, are in a position to do for our profession what no others can do in so short a time or with so little effort.

Having but one college, and that directly under our control, we can so order and systematize a campaign of popular dental education that in one year, I believe, we could make the conditions fifty per cent. better from one end of the province to the other, and in five years there would not be an intelligent adult in

the province who would not know somewhat of the possibilities of dentistry, and have a correspondingly increased appreciation of the value of dental services.

Now, gentlemen, having dealt with the generalities, and having, I hope, convinced you all of the necessity of this work and of the assurance of its ultimate success, I shall proceed to the more concrete consideration of how it shall be brought about.

You all know that the School of Dentistry is a young concern, financially solid, and producing a surplus, and that from time to time the Board has, with a view to prevent too large an accumulation (for reasons which you also know), sent abroad lecturers, after the manner of university extension, to instruct practitioners, in order that they may reap some benefit from their professional affiliation.

Having concluded that the public need instruction much more than do the dentists, it is suggested that this surplus, or a part of it at least, be applied to that end.

A special committee appointed by the Board could consider the best methods of instruction. A paid lecturer could visit every city and town, and establish in as many places as possible a local society. He could deliver lectures on dental subjects, or arrange, where possible, for local practitioners to give public addresses. I would suggest also that the local practitioners be paid for services rendered, at some rate which could be justly arranged by the committee. A general examination of the dental conditions in the schools, colleges and other public institutions could be made, and the results compiled and published.

There are public-spirited dentists scattered all over the province, who would undertake portions of the work, even without pay, but since all will be benefited, it is but fair that all should contribute, at least indirectly, to the good work.

Then, as to printing ink—I have great faith in printing ink. The committee could call for brief and popularly written articles of an educational nature. There are many who would be only too happy to contribute, and I am sure that there would be no dearth of material, for there are the men and the intelligence right to hand. Copies of these articles could be printed and sent to all practitioners, all schools, colleges and other public institutions, and be distributed by properly appointed persons, so that the waste would be minimized.

More elaborate pamphlets could be prepared and sold to individual practitioners at a small advance on cost of production, thereby making this branch of the work self-supporting. I know by the success which attended a small effort in this direction on my own part that many dentists are glad to get such matter, for it saves hours of explanation and individual education. This would become a very important part of the work—so important, in fact, that, once started, you would all be surprised at the results.



There are many other avenues of operation which would be suggested, and which would grow naturally out of the system. This work is for no one man's personal aggrandisement or profit, but for the benefit of the whole, and, once this idea is firmly established, we can be assured of helping hands from every section of the province.

The press is another great element of progress. Just as soon as the press discovers the far-reaching scope of this work they will take it up, for they are bound to follow and to lead in matters of public interest. The available energies of the press in this matter are beyond calculation, and once they are concerned in this work, its ultimate success is assured.

See what has been accomplished in sanitation, in road improvement, and in the methods of dealing with tuberculosis, and yet, excepting, perhaps, the last, there has been no supremely concentrated effort, and no truly systematic organization.

We possess advantages which were not possessed by any of these movements. We have a solid basis for our operation, and an army of trained specialists to carry it out. Moreover, it is not a purely philanthropic work, but one which means a real and tangible gain to each and every member of the profession.

It is not every movement of this kind that, besides being of untold benefit to the public at large, at the same time promises to add to the prestige and increase the emolument of a whole profession.

Regarding the cost of this work, it would depend greatly upon the perfection of the arrangements. The slow progress at the start would be rapidly accelerated, because the forces are cumulative. Before long it would attain such impetus that it would need but little initial force. Awake the public on any question, and they are like a flood, constantly accumulating additional energy. Before long they will demand the highest service and be willing to pay for the same, just as soon as they are convinced that such is to their advantage. The actual cost would have to be computed by the committee. I am sure that it would not be excessive, and that every dollar spent in this work by the Royal College of Dental Surgeons would be returned in hundreds to the individual practitioner.

We are not in Ontario called upon to do a thousandth part of the dentistry which could be done and paid for if the people really knew that they needed it.

Good dental services mean less suffering and less disease, better health and more happiness, and the people must be made to realize this fact.

Mr. President and gentlemen, I have endeavored to place before you these facts as I see them. Their presentation is imperfect, but the facts remain. Dentistry in Ontario is not what it should be. We are agreed, I believe, that the fault lies not with

the dentists, but in the general ignorance of the people regarding us. To dispel ignorance is a question of education.

Popular education in any direction is not an experiment, but an assured possibility.

We have seen what can be accomplished by very imperfect means.

We possess means of exceptional advantage. Men, energy, concentration and necessary funds are ours. Shall we let the opportunity pass of placing our profession in its rightful position, the first place? I think not. We must not.

Let us concentrate our forces, perfect our organization and institute a campaign of popular education that shall win the envy and admiration of our confreres throughout the world.

## Selections

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### THE TREATMENT OF CHRONIC CONSTIPATION.

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By H. RICHARDSON, M.D.

Late Pathologist to Mount Hope Retreat; Lecturer on Neurology and Psychology and on Physiologic Chemistry, University of Maryland; Pathologist to the Maryland Asylum and Training School for Feeble-minded Children.

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There is perhaps no disease the treatment of which gives the general practitioner more trouble than chronic constipation, nor one which causes more disagreeable symptoms to the patient, the tired feeling, the want of energy, the headache, the loss of appetite, and the general malaise often producing a condition of chronic invalidism, which if long continued becomes incurable. The purgative habit is the natural sequence to the condition, and it is by no means uncommon to meet a patient whose bowels never move without having recourse to an evacuant.

The causes of chronic constipation are many, one of the most common being a hyperchlorhydria of the stomach, which may not be very marked on quantitative analysis of the contents after a test meal, but yet sufficient to produce a chronic constipation. The Ewald breakfast alone is in my opinion of little value as a means of testing the condition of the stomach; three ounces of bread and a cup of weak tea cannot be capable of producing a secretion such as would take place after a full meal of meat and bread, and many of the failures in the diagnosis of stomach troubles and the disrepute into which the analysis of stomach contents has fallen are in my opinion largely due to the use of the Ewald test meal alone. I invariably use the Salzer-Ewald meals, believing that the full meal nearly approaching the regular diet is more likely to give the actual secretion of the stomach than such an apology for a meal as the Ewald breakfast alone. Further, it is absolutely necessary to make a quantitative estimation of the acids of the contents; quantitative tests for the presence or absence of HCl are often worse than useless, being misleading. I use Toepfer's method, and though open to many objections as an exact quantitative method, its simplicity recommends it, while it gives results sufficiently accurate for clinical work.

In my experience the normal free HCl after the Salzer-Ewald meal is much lower than is usually given in the text-book. I consider about 25 deg. free HCl (Simon says 40 deg. to 60 deg.), 10 deg. loosely combined HCl, and 10 deg. to 15 deg.

organic acids and acid salts as about normal in this state. As one of the main functions of the small intestine is to secrete sodium bicarbonate, it is evident that any increase in the amount of HCl or deficiency in the amount of soda will produce a lessened alkalinity, or a positive acidity of the contents of the bowels, which produces constipation.

In cases in which there is a hypochlorhydria there is generally a period of constipation, followed by more or less severe diarrhea with colic. That the bile, and especially the bile salts have an effect upon peristalsis has long been recognized; as the bile salts are reabsorbed from the intestine, to be used over again by the liver, it follows that any severe attack of diarrhea by not giving the bile salts time to reabsorb will reduce the quantity in the system, and, therefore, reduce the quantity and efficiency of the bile as a normal evacuant. With the habitual use of purgatives this condition must be accentuated, causing the well-known result that purgatives increase the constipation habit.

The treatments for chronic constipation are usually palliative rather than curative. Diets are theoretically of great value, and in some cases are effective, but it is much easier for a doctor to prescribe a diet than for the patient to keep to the required regimen. Many apparently insignificant details are effective in certain cases; a strong douche of cold water to the abdomen, or an ether spray, a glass of cold water on rising, preferably with a little common salt or soda bicarbonate, more especially in hypochlorhydria, brown bread, cooked or uncooked fruit, green vegetables, etc., are often successful for a time at least; but in my experience sooner or later the patient neglects these precautions, and appears again at the office with the same tale of woe.

In women who have borne children and who give the history of having previously been regular, small doses of thyroid will sometimes give regularity. The reason for this is not very evident, but I was led to try it from attending a five-year-old cretinic child whose bowels never moved without an enema; after the administration of the thyroid one of the first symptoms of improvement was the regularity of the bowels. Arguing that as pregnancy often affects the thyroid secretion and that the constipation was apparently the result of the pregnancy, and no other cause being evident, I prescribed thyroid with very satisfactory results, the patient being able to do without the drug after a few weeks of treatment. These cases are no doubt exceptional.

In considering the physiology of evacuation of the bowels it occurred to me that possibly a diminished quantity of bile might be a cause of chronic constipation, and in any case an extra quantity of bile might act as a sufficient stimulant to keep the bowels regular. I, therefore, prescribed 5 grains of glycocholate of soda mass with magnesium q. s. as an excipient t. i. d.,

ordering the patient to take them regularly, using a purgative when necessary. After taking the capsules for a week the patient reported that her bowels were moving regularly without purgatives. I have had the same gratifying results in several others cases; and, further, the bowels remain regular after the discontinuance of the drug. Should a tendency to constipation return a few capsules will restore regularity.

One advantage in the use of sodium glycocholate mass is that it is not toxic, and is the natural evacuant of the bowels. The vegetable purgatives, calomel, etc., act through their toxicity, and though the neutral salts are non-toxic they deplete the system. Sodium glycocholate mass is not a purgative, and results can only be expected after two or three weeks' trial.

Occasionally the patient on commencing the treatment complains of nausea; this usually disappears after a day or two if the medicine is persevered with, and can be avoided by taking the capsules two hours after meals, when the stomach is emptying itself rapidly. Sodium glycocholate mass is also a great benefit in malaria and in other diseases where the liver has become torpid and the complexion of a dirty, icteroid hue. On the administration of the drug for a few weeks the skin clears up, the liver regaining its normal activity.

In hepatic colic sodium glycocholate mass is a specific; and, further, by long-continued administration it will dissolve gallstones *in situ*, rendering surgical interference unnecessary.

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### PROF. W. D. MILLER.

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As some of our readers may know from newspaper reports, Professor Miller will return to America, and has been called to the chair of Dental Histology and Pathology, in the University of Michigan, and to be the dean of the Dental Department. This will be welcome news to his friends here, and the friends of the University of Michigan. It is, however, a more significant matter for the entire profession. Dr. Miller, by his scientific researches, has placed himself in a position to command the confidence of scientific workers in the dental profession the world over, and he probably has the capacity for doing and directing scientific work in his special field possessed by few other men in our profession. The Regents of the University of Michigan realize this fact and are preparing to make available the University resources, and Professor Miller's knowledge and skill for the advancement of the scientific aspects of dentistry, not for the glory of their institution, but that the science of dentistry may at least keep pace with the immense strides

being made in its technical or art features. The intention is to place under Professor Miller's direction the scientific education of such students as exhibit a capacity for such work, or such as promise to develop a capacity, and to establish a laboratory for research on dental subjects for all workers who may not have proper facilities in the way of instructors or equipment. It is hoped that this work shall so commend itself to the profession in general, that students having a scientific desire and qualifications may be assisted in preparing themselves for teachers and scientific workers.

There is undoubtedly great need for such a training school and it should receive the cordial support of the entire profession and we confidently expect it will.

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### NOW, THERE'S A POINT.

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It's very human to feel that if you have done something that will benefit the World, you ought to benefit by it yourself, and that the World, that gets the benefit, should pay you, its benefactor. But, or! how easy it is to forget all the little things the World has done for you without sending you a bill, especially those fellows in the World who are not in the World, because they happen to be dead. Next time you start off to Washington to take out a Patent on a method (if it's a thing, it's different), while you're riding in the cars work it all over again in your mind, and figure out how many steps there are in your new process; if you do this, likely enough you'll find there are at least ten, and that nine of them are not new at all, but were freely bequeathed to you by those Dead Fellows. Then count up how little you have paid out in royalties for other men's secrets, that they did not keep secret. And query to yourself whether or not you ever could have invented your little invention if those Dead Fellows had patented everything they thought of? Believe me, my friend, if you do all this, you'll never finish your journey. You'll get off those cars at the next stop and sell the balance of your ticket; and you'll use the money to buy flowers for the graves of those Dead Fellows.—*The Pessimist, in Items of Interest.*

The next meeting of the Canadian Dental Association will be held in Laval University, Montreal, September 5, 6, 7, 8, 1906

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# Dominion Dental Journal

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No. 7

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## UNIVERSITY OF TORONTO BOARD OF GOVERNORS.

The press of Toronto is loud in its praises of the action of the Ontario Government toward Toronto University. It is safe to say that no action of a government ever got more universal approval from the Toronto press. From the appointment of the Commission of Investigation to the appointment of the Board of Governors a few days ago, has been one long series of commendations. *Saturday Night*, under its late editor, ventured a half-hearted criticism of the personnel of the Commission. With this one exception everything has been lovely. But just because the daily papers of Toronto approve is not a good reason for thinking that everything is as well as it might be. There are many reasons why the press of Toronto must either

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The next meeting of the Canadian Dental Association will be held in Laval University, Montreal, September 5, 6, 7, 8, 1906

say nothing or approve. Reasons based on a want of knowledge of University affairs, and reasons based on too much knowledge of what is occurring about the University.

The Commission did its work well and faithfully. It aimed at a broad and liberal foundation—an executive head and a non-partisan Board of Governors. But it left the naming of the governors in the hands of the Ontario Cabinet.

As set forth in the University Bill of 1906, the Lieutenant-Governor-in-Council has recently appointed the Board of Governors. There are twenty in all, the eighteen just appointed and the President and the Chancellor. The Board, as named by the Government, may be divided into three classes—financiers, lawyers and ministers of the Gospel.

The members of the board who may be classified as representing finance are: John Hoskins, James L. Englehart, Bryon E. Walker, G. R. R. Cockburn, Chester D. Massey, W. T. White, E. C. Whitney, E. B. Osler, J. W. Flavelle.

Those who represent the law: Honorable S. H. Blake, His Honor Colin Synder, Chief Justice Hon. Charles Moss, Hugh T. Kelly, and the Chancellor.

Those who represent the church, Rev. Father Teffy. Rev. D. Bruce McDonald, Rev. J. A. McDonald.

We have left Goldwin Smith who has resigned and Sir Mackenzie Bowell who does not seem to represent any particular interest. It would be hard even for Mr. Whitney to explain what special qualifications such men have to govern a great institution of learning. Outside of four or five members there is not a man who has had any special educational training or interest in educational matters. In fact, there are only five graduates of the University on the Board, and only four members resident outside of Toronto. The Commission was thinking of a Provincial University, but the Government named sixteen governors, resident in Toronto, out of the twenty. It is quite clear that the name will not be changed to the University of Ontario. The Government has said University of Toronto, a kind of school of higher education and culture, for the sons of the wealthy and the law at the public expense. The farming, engineering, mining and primary and secondary educational interests must pay the taxes, but have no say in the kind of education to be given at the Provincial University? No utilitarian interests must be represented on the Board of Governors.



Finance, law and divinity having been so well represented, let us stop a moment and consider what other interests there are which are of first importance in Canada, and are not represented by any member of the Board of Governors. Interests which are the future of this country. Interests which are the backbone of any country. In the report of the Commissioners the University is to take charge of the teaching of veterinary science, to become more closely identified with agriculture and forestry. What member of the Board of Governors represents this great class—agriculture? In that same report medical science, household economy, domestic science, and public health are to be taken under the wing of the University. Is there a member of the Board of Governors who is interested in this branch of public education? Then, again, the same report places mining, engineering, surveying and architecture under the guidance of the Board of Governors. And not a governor knowing the needs of this department. The great body of teachers of the secondary schools of the province are educated at the University, and not a governor from the thousands of teachers in this province.

Look at the question in another way. At the present time there are in attendance at the University and its federated and affiliated colleges in Arts, Law and Divinity, the only interest represented on the Board, about eleven hundred students, while in the departments of science there are about two thousand three hundred students with not one advocate on the Board. If all the financiers, lawyers and preachers in this province were suddenly to pass out of existence, there would be no great asset lost. There would still be left the elements of wealth and prosperity. But if all the farmers, miners, teachers, engineers and guardians of public health were to suddenly go out of existence it would strike such a blow to all other interests that there would be neither wealth nor prosperity left. Then what motive could have prompted the Legislature to make such an aggregation the directors of the people's education in this province? On a basis of good politics, if for nothing higher, why was not agriculture, teaching, public health and engineering represented on the Board? The country must look to the Minister of Education, the Minister of Agriculture and the Minister of Mines for an explanation of why these departments have no representation on the Board.

Of course it will be said in defence of the appointees that they are a Board of Governors, whose duty it will be to take suggestions on educational matters as to curriculum of study, discipline and government from the Senate and the President. If these men are to sit in judgment on the recommendations of the Senate and the President, then they must have sufficient technical knowledge of the requirements of an education and the means of acquiring it before their decisions shall be free from personal bias or the influences of others. Judgments cannot be arrived at without a full understanding of the facts bearing on the question. We hold that there is not a member of the Board with a sufficient knowledge of the facts of agriculture, mining, engineering, public health or pedagogy to know whether the recommendations of either the President or the Senate in these matters are in the best interests of the people of this province or not. If the Board are to always take the advice of the Senate and President then the appointments are not so objectionable from an educational standpoint. But why the necessity of their appointment then, except for honor's sake or something else.

The University Bill says that the Senate shall dictate the courses of study and the subjects to be taught. This looks as if the Board of Governors did not need to be fully conversant with how to educate. It looks all right on the face of it. But who supplies the money? The Senate may say that they will teach chemistry or any other department of science in the four years of the science course, or that they will teach pathology experimentally; but the Board, if it is more interested in Greek verbs because someone told them that they meant culture, would not supply the necessary money to teach the subjects in the many fields recommended by the Senate. The Board will always find money to teach what they, in their judgment, think most essential, while other departments must drag on as best they can. Because of the men selected, their judgments will always be in favor of the teaching of the humanities as opposed to the sciences. And if they do honestly desire to supply the needs of the seventy-five per cent. of the student body they can only do so at the dictation of others, which means that the new state of affairs shall be no better than the old.

### PEROXIDE AGAIN.

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Patient—Female, unmarried, about 30 years of age. I put on a bridge for her last September, using as abutments the first bicuspid and second molar on the right side; superior.

The bicuspid root was badly decayed, and had been the seat of an alveolar abscess. I treated it seemingly satisfactorily, and put on the bridge. About a month ago she complained of the bridge being loose. On April 26th I removed the bridge, and saw what I supposed to be a fistulous opening on the gum. Here is where the trouble commenced. Foolishly taking it for granted that there was an opening, I injected  $H_2O_2$ . The result was quite a large swelling. I then had recourse to the lance, and cut in quite deeply, as far as I could. This seemed to allow the  $H_2O_2$  to escape. I kneaded it in every direction, and completed the treatment by injecting cloves, which seemed to come through, though with difficulty. When I dismissed her there still remained some swelling. This was on Thursday. On Saturday she came in with her face very badly swollen. As I feared that the abscess would point on the face, I prescribed spts. camphor exteriorly and big poultice internally. The following Saturday the swelling had gone down considerably, and seemed to be located in two hardened lumps; one beside the nose and the other right in the substance of the cheek. Next time the swelling had gone down still more; now just one lump, that in the cheek.

The next time she came I reamed out the root thoroughly with Gates-Gliddon's. She said she could taste cloves. Yesterday she reported again; face had swollen up again, but gone down. The hard lump still in the cheek; complains of a feeling like a cord running to corner of mouth. I can feel a process from lump to the corner of mouth. Complains of darting pains up side of face.

Now, this is as minute a history of the case as I can give. It puzzles me, and, to some extent, alarms. What is your opinion of it? A statement of your opinion and hints for treatment would greatly oblige,

EDITOR.—This is one of many accidents reported to me from the use of peroxide of hydrogen.

**PROGRAMME OF THE CANADIAN DENTAL ASSOCIATION, MONTREAL, SEPT. 5, 6, 7 & 8, 1906.**

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**WEDNESDAY.**

- 9.00 Registration.
- 9.30 President's Address.
- 10.00 Paper—"Standards of Dental Education in the British Empire."—  
By F. A. Stevenson, Montreal.  
Discussion.
- 11.00 Report of Dominion Dental Council.—By President, H. R. Abbott,  
London; Secretary, W. D. Cowan, Regina.
- 2.00 Paper—"Some Practical Suggestions in regard to Regulating Teeth."  
—By S. H. Guilford, Philadelphia.  
Discussion by G. A. Roberts, Toronto; H. A. Campbell,  
Orangeville.
- 8.00 p.m. Reception at Laval University, at which papers will be read by  
Dr. Dubeau on Dental Education in the Public Schools and  
Dr. Ira Bower on Army Dental Service. Premier Gouin, Sir  
Frederick Borden, Minister of Militia, Lord Aylmer and Lieut.  
Col. Fiscet will discuss the Papers read by Drs. Dubeau and  
Bower.

**THURSDAY.**

- 9.00 Clinics.
- 2.00 Paper—"On Porcelain."—By W. A. Capon, Philadelphia.  
Discussion.
- 3.30 Paper—"Some methods of avoiding a useless and undesirable  
display of gold in Bridge Work."—By A. W. Thornton, Toronto.  
Discussion by A. H. Mabee, Gananoque, Ont.; S. M. McInnis,  
Brandon; Joseph Nolin, Montreal.
- 8.00 p.m. Paper—"Some Features of Pyorrhea."—By F. L. Fossume,  
New York.  
Discussion by Chas. E. Pearson, Toronto; Jas. M. Magee,  
St. John.

**FRIDAY.**

- 9.00 Clinics.
- 2.00 Paper—Subject announced later.—By G. Lennox Curtis, New York.  
Discussion by Frank Woodbury, Halifax, A. E. Webster, Toronto
- 3.30 Paper—Subject announced later.—By Dr. Ritchie, Nova Scotia.
- 8.00 Banquet at the Windsor Hotel.

The full programme will appear in the next issue.

### Editorial Notes

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MR. S. H. CRAIG, for many years the travelling representative and manager of the S. S. White Dental Manufacturing Company in Canada, has retired from active work because of ill-health. He will be succeeded by Mr. William H. Parry, Jr. The profession of Canada and the dental trade regret Mr. Craig's retirement from the active management of a business, which has been placed in its present position by his own abilities and efforts.

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### Proceedings of Dental Societies

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#### DOMINION DENTAL COUNCIL OF CANADA.

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The Dominion Dental Council of Canada will meet in Montreal, on Monday, September 3rd, at 10 a.m., to transact such business as may come before it.

W. D. Cowan, Secretary-Treasurer,  
Regina, Saskatchewan

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#### ROYAL COLLEGE OF DENTAL SURGEONS OF ONTARIO.

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Applications for positions on the teaching staff of the Royal College of Dental Surgeons, Toronto, as Lecturer on Medicine; as Lecturer on Orthodontia; as Lecturer on Dental History and Ethics; as Demonstrator of Bacteriology, will be received by the undersigned until August 10th, 1906.

J. B. WILLMOTT,  
Sec'y, R.C.D.S.

96 College Street Toronto.

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#### FOR SALE.

Dental Practice in good flourishing town in Maritime Provinces, office equipments in A1 order. Excellent opening for recent graduates. Advertiser has good reasons for retiring. Address, A.B.C., care of DOM. DENT. JOUR.

# Dominion Dental Journal

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VOL. XVIII.

TORONTO, AUGUST, 1906.

No. 8.

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## Original Communications

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### A PLEA FOR A UNIFORM METHOD OF TREATING ALVEOLAR ABSCESS.

—  
BY G. LENOX CURTIS, M.D., NEW YORK.  
—

Read before the Central Dental Association of New Jersey.

The crude methods of our predecessors—the earlier dentists—have been gradually improved upon, until they have crystallized into a system of approved methods, of which we, their successors, may well be proud. And this process of improvement and development in our profession is still going on. But there is one very important subject that is quite frequently presented in the practice of every dentist that seems to have been neglected, and that is still surrounded by a great diversity of opinion as to the best method that should be employed in its treatment. I refer to the disease alveolar abscess. The present condition of the subject of alveolar abscess is a lamentable matter to me; and it is one that, in my opinion, demands the most serious and immediate consideration and correction. Every dentist seems to have a method of his own for the treatment of alveolar abscess, which is often radically different from that of his fellows. The great diversity of opinion that exists among dentists in relation to the proper treatment to be applied to produce a favorable result in this disease is quite remarkable. But it is not at all remarkable that the result from the use of many of the methods suggested should be nothing but failure. Few practitioners have had the opportunity that I have had to become acquainted with the details of many of the methods employed by both dentists and physicians in the treatment of disease; for a large number of

both, from all parts of the country, have, when their own methods failed, sent the cases to me for treatment.

And in the examination of these cases so sent to me, I have acquired a knowledge of the methods employed by the practitioners who first attempted to treat them.

If the science of dentistry is properly taught in the regularly organized and chartered colleges that are now in operation in the United States, how does it happen that in the case of the disease of alveolar abscess, a disease that must be presented often in the practice of every dentist, there should be such a diversity of opinion among the graduates of these colleges as to the proper method to be employed in its treatment? How does it happen in all these years of progress that the proper method has not been found, promulgated and properly taught by the professors of operative dentistry in the different colleges?

This deplorable lack of uniformity is largely, if not altogether, due to the fact that each professor of operative dentistry teaches the method he practices, and, as I understand, without any regard to the methods stated in the text-book used in his college, which may be radically different from his method. The inevitable result is that the ideas of the students become confused upon this subject, and they do not know what method to employ. In such a dilemma they will be most likely to adopt the one presented by the professor of operative dentistry, whether it is a good or a bad one. It is true that no matter how simple any method may be, every one cannot become expert in the practice of it. Thoroughness and exactness in practically carrying out the details of a method are largely inherited qualities of mind, which are difficult to acquire.

The difficulty that would attend any effort to introduce and establish a new or approved method of procedure, no matter how deserving it may be, will be in inducing the majority of practitioners to adopt it, even when they are dissatisfied with the methods they have habitually employed.

The following plan of introducing and promulgating a uniform method of treating the malady in question, would, I believe, overcome this difficulty.

Let the National Dental Association offer a prize for papers setting forth the best method for treating alveolar abscess in all its stages; the merits of these papers shall be decided by three judges selected, one each from New York, Chicago, and Philadelphia, the three principal centres of dental education.

The selection of these judges will be a very important matter; it should be free from politics. They should be well known, unprejudiced, and skilful practitioners, but should not be connected with any dental college. The Association of Dental College Faculties should, upon the request of the

National Association, agree to recommend the method adopted by the judges selected by the National Dental Association, and see to it that all colleges teach it for at least a period of years, or until a better method is developed and adopted under similar conditions.

It should be incumbent upon the National Dental Association to give the method receiving the prize as much publicity as possible. It should be illustrated and published in all dental and medical periodicals, and copies should be mailed to all dentists and practitioners thoroughly instructed in this method; **should be sent by the National Association of Dental College Faculties from college to college, to impart it in all its details to the professors of operative dentistry.** And it should be the duty of the practitioner so sent to be present when the professor of operative dentistry teaches the method to the students, so that he may be sure that he understands the matter, and **can and does teach it correctly, so that the students taught by him can diagnose and treat this disease by the approved method.**

Having called your attention to what I consider a much needed reform, I will now proceed to state some of the conditions which may accompany its development. It would occupy too much time if I were to endeavor to describe in detail the different methods employed in the many complications that may accompany the development of this disease, therefore, I will give a general outline of my method of treating it when presented in some of its forms.

The cause of alveolar abscess is not the tooth, but the decomposed pulp within it.

There is no more necessity for extracting a tooth to correct a disease at its root (unless the whole of the alveolar process surrounding the tooth is in a badly diseased condition) than there is to tear down a house to correct a defect in the sewer pipe. When the pulp of a tooth has become putrescent there is sure to be an abscess at its roots, no matter what may be the condition of the gum. This can be easily proven by passing a small drill through the gum and alveolus to the apex of the roots, where it will enter the cavity formed by the absorption of the alveolus. If the tooth is painful this will give immediate relief, by discharging the contents of the abscess.

The best description of the cause of an alveolar abscess I have found is that given by Dr. Farrar, whose description is as follows: "The gases arising from the putrescent pulp are forced through the apical foramen where the pressure distends the peridental membrane, which thus becomes the walls of the abscess."

The distension may be so gradual as to induce absorption of the alveolar process without any great disturbance; possibly with no more than a mere tenderness. The gum may not be



more than slightly congested, even if at all. Necrosis may or may not be present. There is always, however, an absorption of the alveolar process. Sometimes it is so extensive as to lead one to mistake the cavity caused by the pressure of the sac for an extensive necrosis. A different diagnosis is easily made, however. In alveolar abscess the bone is smooth and dense; while in necrosis the sac, having been mainly destroyed, is rough and filled with pus.

The cavities caused by the absorption vary greatly in size; the large ones seldom discharge their contents through the gum of their own accord, but may discharge their contents into the nares, antrum, or may be retained within the sac for an indefinite period.

Sometimes the septic irritaton from the abscess is sufficient to create a cystic tumor large enough to destroy all of the bone of an upper or lower jaw. I have had cases in which the molar, as well as the maxillary bone, had been destroyed. It is not always easy to determine whether you have an abscess or cystic tumor, or both to deal with. Farrar says that "in many cases of abscess there is only a tumor, the interior of which often breaks down and discharges through the root; if the canal is clogged it is generally followed by a fistula." When this occurs a correct diagnosis is not difficult to make, as the fistula leads into the abscess. The diagnosis of what is known as a "blind abscess" is to the majority of practitioners a difficult matter. Many of our older men and teachers advise against disturbing them, "lest an acute inflammation be set up which would necessitate a long and painful course of treatment." This advice is wrong, and should be ignored. The dreadful inflammation, when it occurs, is always due to faulty methods of treatment.

The old method, which is radically wrong, consists in enlarging the apical foramen, and through the orifice so made force the medicine employed into the sac of the abscess, which has no other outlet through which the medicine and secretions can escape, except the narrow canal in the root through which the medicine was introduced. Could there be a more stupid and blundering process than this; and is it to be wondered at that it should result in a "long and painful course of treatment" and failure? For when an alveolar abscess is treated in this manner there is no permanent cure possible, for, notwithstanding the applications made in this way, there will always remain at the apex of the root a diseased mass, which is ready on the slightest provocation, and at any time, to produce a fresh inflammation, causing necrosis, or the nucleus of a cystic tumor.

The above method of treating alveolar abscess, I know from my personal observation, is very often employed, and I have dwelt upon it to show the great wrong and suffering that is often inflicted upon their patients by incompetent practitioners.

The nature of an abscess is determined largely by the rapidity with which it develops. And while the treatment in all cases is essentially the same, it must be varied in some instances to meet existing conditions. For instance, the pulp in a deciduous tooth might pain to-day and be dead to-morrow; and the cleansing of the pulp cavity should be done in the same way as would be done were the tooth that of an adult, except that the pulp cavity and canals should be filled with Canada balsam or parafine, but the tissue around the apex should not be disturbed. The alveolar abscess, however, which has been caused by the devitalization of a deciduous tooth, requires but little more treatment than lancing the gum to allow the pus to escape, cold applications to the face, and a saline cathartic. These means are usually sufficient to bring both speedy relief and a radical cure.

In the adult, alveolar abscess may assume a variety of phases, but the cause is generally the same.

If, in diseases of the mouth and teeth, the examination is made with the X-rays, the diagnosis becomes comparatively an easy matter, for by its use the extent and general conditions of the disease may be ascertained with certainty. By placing a very fine wire in the canals of the roots before the radiograph is made, the wire will show exactly the distance each canal has been opened, and how much of it has not been opened.

*Treatment.*—The first step in the successful treatment of any disease, consists in locating and removing its cause. When this has been done the removal of the disease and its consequences is usually a comparatively easy matter. In fact, the ability to locate and remove the cause of the disease under consideration, constitutes practically the knowledge and skill that is necessary to render any method of treatment successful.

Very often I find that unsatisfactory results of treatment are entirely attributable to the presence of a septic canal, or to an undiscovered abscess of an adjoining tooth which is discharging into the fistula of the tooth under treatment. In such cases so much attention has been given to the treatment of the tooth most seriously affected, that its devitalized and abscessed neighbor has escaped observation. Hence, the inflammation, with its attending symptoms, continues unabated by whatever kind of treatment may be given to the tooth under treatment. But more frequently it happens that treatment proves unsatisfactory, for the reason that so many practitioners do not know how to open the canals in a proper manner. They generally attempt to open them at an angle, which makes it impossible to reach the apex with anything but a bristle probe, with which instrument it is impossible to thoroughly empty and cleanse the canal.

Furthermore, I have learned that practitioners who depend

upon this method overlook, or never enter canals that are not easily located, and content themselves with the idea that the tooth is deficient in the usual number of roots. Enough of the masticating surface of the tooth should be removed to allow exposure of, and direct access to all of the canals. It is true that many of the canals, especially those in the first bicuspid and buccal roots of molars, are often tortuous and contracted; but to secure good results all canals must be found, opened and filled. This work including alveolotomy and the subsequent treatment, should be completed within a few days or weeks.

The successful treatment of alveolar abscess requires greater judgment and skill than any other dental operation. But, unless successful, the health of the patient is jeopardized, and the foundation for fillings, crown and bridge work is "rotten" in every sense of the word. What is gained by making a magnificent filling, or constructing a beautiful crown upon a crumbling foundation, or over a slumbering volcano?

I wish to state that my present method of treating alveolar abscess is not entirely original, as Dr. Farrar suggested root amputation some years ago, and Dr. Atkinson has been given the credit of curetting the sac; and I understand that Dr. John B. Rich practiced both these methods prior to either of these gentlemen entering practice, but I cannot find that any of them ever published the details of their method, or practiced it in all cases; but mine, taken altogether, is so simple and successful that at least ninety per cent. of all cases treated by it are permanently cured.

But I wish to state distinctly that the time required to carry out the treatment, or the pain caused by it, must not be taken into consideration. I am sure that a great many cases in the practice of others fail because they do not allow themselves sufficient time to do the work properly. They are afraid to charge the patient for the time that is necessary to devote to the treatment of this disease. A large amount of time is often necessary to open the canals properly, and unless the dentist can be compensated for the time thus spent, he will not do the work thoroughly, and he will not be successful.

As already stated, the first and most important thing to do is to enlarge the cavity in the masticating surface so as to allow direct access to all canals in the roots; they should be enlarged sufficiently to destroy all the large canaliculi, which are always full of septic matter, which must be removed. So little attention is paid to this matter (the necessary enlargement of the canals) that not more than one per cent. of the cases referred to me have the canals opened in a proper manner, although I have always asked the dentists having the case in charge to open all the canals and prepare them for filling, and very few

of them do it, even when I send the case back to them with an *earnest* request to open the canals to the apex, or as far as possible. Yet, notwithstanding, I often find that I must do the work myself or abandon it.

I believe that there are not more than five per cent. of dentists that are practicing now, who are capable of opening even the simplest canals; they usually try to reach the canals from a cavity in the mesial or distal surface of the tooth, and, as I say, seldom open but one canal.

Just how they propose to make those roots antiseptic without opening them and removing the septic substance they contain, they do not pretend to give any explanation about. Some dentists boast that they can fill hair-like canals to the very apex; I never could.

I once sent a patient of mine to a dentist, a man in good standing, who had assured me he was an expert in opening the canals in the roots of teeth, and said that he would be glad to do such work for me when I was engaged so that I could not do it myself. I believed his statement, and sent one of my patients to him with a request that he would open the canals of designated teeth that I intended to treat, and prepare them for filling. After spending considerable time in attempting to do what I had requested, he sent the patient back to me, with a letter explaining that he had opened all the canals he could find, as far as he was able. Upon examining the teeth I found he knew nothing about what he had claimed to know so much, and that I would be obliged to do the work myself. He had not opened any of the canals more than one-third of their length. He sent me word that two of the upper molars had but two roots each, and that they were very short. The fact was that he had not opened them but a short distance, and had not enlarged the pulp cavity sufficiently to expose the entrance to the anterior root.

After I had properly prepared the case, I referred it back to him that he might see his mistake. I do this in a way that will give no offence to the dentist, or lessen the patient's confidence in him. This is my way of teaching, and I feel repaid for my trouble when I see an effort upon the part of the dentist to improve his work.

When teaching in the New York Dental School, I required each member of the graduating class to bring me at least a dozen teeth (whose roots I had previously incased in plaster-of-paris up to the crown), and open the canals perfectly, and afterwards fill them, before he took his final examination.

These men, I am pleased to say, are among the five per cent. who are capable of doing satisfactory work.

About ten years ago, in discussing before the Second District Dental Society, Dr. Rhein's paper upon this subject, I demonstrated the impossibility of opening the canals of all teeth to the apex, which he declared he could do. This string of teeth I now exhibit, is the one I used at that time to prove the incorrectness of Dr. Rhein's assertion. I ask you all to examine them carefully, as they plainly show the difficulties that prevent success.

My way of procedure, after exhausting every means at hand to reach the apex of the root, is to fill the canal as far as opened, and to amputate at the point of filling, removing the portion cut off. Not infrequently the apex is softened by decay. In this event it should be burred away. The amputation in all cases is by no means an easy task, but it can and must be done. In most cases it is not a difficult matter.

The principal thing to do is to get rid of septic roots, and amputate all and any part of roots that cannot be thoroughly opened, disinfected and filled. I find that a very large percentage of dentists do not have even the necessary instruments with which to cleanse the canals without mentioning the ones required to open them for disinfection; hence the large number of abscessed teeth and extractions. I think it is fair to place the percentage of dentists who make proper efforts to open the canals of molars and bicuspid at twenty per cent.; those who are eminently successful at five per cent.; and those who attempt to treat all cases at one per cent. I make this calculation from a study of the cases dentists have referred to me, and from observing the treatment of others.

After the canals have been permanently filled, and if a painless operation is essential, it is my custom to inject into the gum a saturated solution of cocaine. First, giving the patient ten gtt. of volasem, which is a perfect antidote, and without which no more than a two per cent. solution of cocaine should be used. Even a solution of this strength should be guarded by a heart and respiratory stimulant.

After an elapse of a minute or two, plunge a drill, such as the one I have shown, in direct line with the apex of the root. If there is more than an acute inflammation a cavity will be found in the process at the apex of the root. The amount of operating to be done will depend upon the extent of the cavity and the condition of the root and surrounding tissues.

If the inflammation is slight, the mere giving vent to the congestion by the blood-letting which follows the withdrawal of the burrs, is generally sufficient to effect a cure. The burr, however, should always be run over the end of the root to break up the peridental membrane and allow any pus it may contain to escape.

This simple operation is usually all the treatment required. The size of the opening necessary to be made through the gum and process depends upon the amount of disease present, and whether or not a gauze dressing is necessary.

The cavity in the process, or maxilar bone, should be roughened with a burr or curette, and the sac removed.

Caries may effect the apex of the root alone, or it may extend throughout its entire length. If you believe it possible to save all or part of the root, it should be cleansed of the caries, and the wound dressed as often as necessary until it is completely filled in with granulations.

To amputate the root I prefer a burr which will free itself.

Always continue the amputation until the filling material in the root is reached, so as to be sure that no unfilled portion of the canal remains.

If the opening in the gum and process is large enough to readily allow the escape of the effervescing peroxide of hydrogen, I use it to boil out the debris and to check the hemorrhage—otherwise I syringe the wound with a solution of electrozone, one-quarter per cent., or with a ten per cent. saline solution. Peroxide should not be used after the operation, because it retards the granulation if it does not destroy it altogether. The other named solutions are safer, but even these should be used as infrequently as possible, and without force, because of the danger of breaking the blood vessels which deposit the lime cells.

Should pus be found in the wound, you may be sure that either all septic matter has not been removed, or that infection has occurred from septic instrument or dressing. Should it be due to the latter cause, injections of electrozone, followed with tincture of iodine, will usually render the wound sterile.

If the presence of pus is caused by diseased bone, a second operation may be necessary.

When the wound is large enough to allow saliva or food to enter it, I pack it with gauze, first, to prevent secondary hemorrhage, and second, to stimulate granulation. The packing is continued until the cavity in the bone fills in and the wound is healed. Care must be taken not to allow the gum to heal over until the cavity is filled with healthy granulations, lest the serum or excrement from the wound becomes decomposed and causes reinfection.

It sometimes occurs in treating the grinding teeth that the burr penetrates the antrum. When this happens, if the antrum is not infected, it should be douched with a solution of electrozone or salt solution to prevent the formation of a clot within it, which might result in sepsis. Afterwards pack the wound to the point of puncture in the antrum. Care should be taken thereafter not to force solutions into the antrum.

One or two days' time is all that is necessary to treat minor cases, and as many weeks for the ordinary ones. When there is much bone to be reproduced, six or eight weeks may be required, and the wound may have to be dressed two or three times a week. The above detail is the methods I practice, and it is one which almost every dentist can easily learn.

I frequently operate and send the case back to the dentist from whom it came for subsequent treatment. I have observed that he sometimes mistakes the excrement of the wound for pus, and pursues a line of treatment which is not only unnecessary, but which really retards recovery. The microscope will quickly dispell any doubt about the nature of the discharge. The excrement should not be completely removed, as it is essential to rapid granulation.

Occasionally it will be found that closely associated with abscess is a cystoma. When this is the case it should be treated the same as the abscess.

At the clinic of the First District Dental Society last December, I examined a case which at the time I supposed to be one of necrosis of the jaw following an abscess of the central incisors. Upon operating I found a large cystoma holding an ounce of fluid. Both incisors were abscessed, and were surrounded with sacs holding about a half drachm of pus. Dr. Truex has charge of this case, and I see it occasionally to observe the progress of healing.

I most earnestly desire to recommend this method to the younger and more ambitious members of the profession, and to urge them to practice it upon every abscessed tooth until they have become familiar with the location of the apex of the root, and able to recognize the condition of the cavities in the jaw by the touch of the instrument alone. When you get stuck I will be glad, as in the past, to help you out. "Practice makes perfect," and few of us get enough of it to be worthy of this qualification.

There are present not a few to whom I have repeatedly demonstrated this method, and to some of them as long as fifteen or twenty years ago. There may also be present those who condemned this method when I advocated it in a paper which I read before the Fifth District Dental Society of New York, at Utica in 1886, and who are still denouncing it. Such an attitude not only dwarfs the mind of the man who maintains it, but obstructs progress, and tends to hold the profession upon a narrow plane.

PRESIDENT VINSON.—Dr. Curtis said in his paper the universal system of the treatment of alveolar abscess should be installed in the minds of the young men. Now, we have a young man with us to-night, Dr. Rich, of New York, who is ninety-six years old and who has practiced dentistry for seventy years, and who is known as the father of contour filling.

JOHN B. RICH, M.D., D.D.S., New York.—With the experience that a long practice has given me (sixty-three years), I have no hesitation in stating that the greatest difficulty I have experienced in the practice of dentistry has been in the treatment of a certain class of devitalized teeth. I have reference to that class where the pulps have from some cause lost their vitality, and remain in the pulp cavity in a state of decomposition. Where this condition exists there is always an abscess at the apex of the fangs, and the dentine of the crown and fangs are saturated with putrescent matter. Now, this dentine must be purified of the putrescent substance it contains, thoroughly disinfected and made absolutely antiseptic, and then treated in such manner that it will remain so. If this is not done those teeth are sure to give trouble in the future.

Some persons may think it is a very easy matter to treat such teeth, but I tell you that it is a condition that requires more skill, more knowledge, and more patience and time for its absolute cure than any other disease I know of that the dentist is called upon to treat.

It would appear from the paper presented by Dr. Curtis that the efforts which began seventy years ago to try and elevate dentistry by providing for those who desired to practice it in a scientific manner the means of acquiring a thorough knowledge of the principals and practice of a uniform system of dental science has proved a failure, and that the hopes of those men who at that time banded themselves together and strove so earnestly to furnish such facilities have not been realized. Why have their efforts failed? And why do we find so many different methods of treating alveolar abscess in use by the practitioners of to-day? Most of whom are graduates of some one of the dental colleges. All of these colleges claim that their graduates are qualified to practice the profession of doctor of dental surgery in all the departments of that profession according to the best known methods. And yet, according to Dr. Curtis' statement, very few of them have taught their graduates any certain method of treating alveolar abscess. Is it not strange that in all these years that they have been in existence they have not formulated some reliable means of dealing with this very common disease? To me it has been a great disappointment, for I am the only one left of that band of men who, seventy years ago, made a determined effort to establish some system of dental education, with the hope that our calling might be rescued from the slough of ignorance and charlatanism, by which it was then surrounded, and elevated to a respectable place in the communities in which we lived. We were a small body of men, but led by that pioneer champion of dental education, Horace H. Hayden, of Baltimore, we worked hard and persistently to accomplish our object, and finally we succeeded in establishing a dental college, the first one in the world's history.



This was a great success, considering the material we had to work with, for at that period, seventy years ago, the grade of education and intelligence among dentists as a body was very low. But even at that time in the large cities all over the United States there were to be found some well educated men practicing as dentists; they were the exception to the rule, and the universal success that was the result of their intelligent practice showed conclusively that there was a large and lucrative field in this country, where the masses are prosperous for the educated dentist. And that fact was the basis of the arguments we used when advocating the cause of dental education. This education of the dentist has been steadily going on since that time. I need not tell you how those colleges have multiplied, nor how the status of the dentist has changed, for now the average intelligence of the dental profession will compare favorably with any of the liberal professions. And I am ashamed to know that the profession in whose ranks I have practiced so long, worked so hard for its advancement, and been so proud of, should have faltered in its progress towards a perfect knowledge of everything connected with its practice, as it has done in the matter of developing a certain means of treating this disease. As far as the paper of Dr. Curtis pretends to treat alveolar abscess, it is the best paper I have ever heard read on that subject. He has hardly laid stress enough upon one item, for it is of the first importance in treating such cases, and that is that you must have plenty of room to work. The pulp cavity must be enlarged until every part of it can be reached in the exploration for the pulp channels in the fangs, and when these channels are found they must be enlarged down to their apex so they can be cleared out and made thoroughly antiseptic, and treated so they will remain so.

I have been asked to explain my method of treating devitalized teeth. I would be very much pleased to comply with that request, but there is not time this evening to give the details of the treatment and without the detail the description would be of no value.

Dr. Curtis mentioned another matter that I think he might have presented more forcibly, and that was the statement "that the time it takes to treat an abscess properly must not be taken into consideration"; in other words, all the time necessary must be devoted to the treatment to make it successful. Now, this is a vital matter about the treatment of alveolar abscess, and unless the dentist can afford to devote the necessary time to this task he ought not to undertake it. It is an operation for which he must be well paid; if he is not, as a rule, he will not devote enough time to its treatment to make it a success.

In relation to the lapsus of the profession as regards the

treatment of alveolar abscess, I have often been asked who is responsible for the great variation by different practitioners in the treatment of this disease as stated in Dr. Curtis' paper, and I say that it is primarily the fault of the professors of operative dentistry in the different colleges, and secondarily the fault of the national and state societies, who have allowed such a condition to exist without comment or reproof. Now, the discussion of Dr. Curtis' paper does not imply that I am opposed to it, for I am not; on the contrary, I am heartily in accord with him in all the material points he has stated in it.

In regard to the plan he proposes, to bring about a uniform plan for treating alveolar abscess, it appears to me to be a most admirable one, and if adopted and put in operation by the National Dental Association, and the National Association of Dental College Faculties, would most certainly bring about the much needed reform he has called our attention to, and entitle them to the most grateful thanks of the whole dental profession.

## COMBINATION GOLD AND PORCELAIN INLAYS.

BY DR. DAVY, MORRISBURG, ONT.

Read before the Eastern Ontario Dental Association.

One of the many conditions which meet the dentist, frequently demanding better attention, I propose to treat in the manner mentioned in the title of this paper.

The three words, What, Why and How, will cover the question.

1. *What Conditions.*—Centrals, laterals or cuspids with one-half to one-third or less of the incisal edge gone and a large proximal cavity. These generally resolve themselves into a large Johnston filling, a gold filling built with a post in the root, or a porcelain inlay anchored by means of a post, each one having its disadvantages. The gold lacks in esthetic qualities and the porcelain in strength, and all lack strength when the incisal edge is very thin.

The other condition I wish to mention is in anterior proximo occlusal fillings in the bicuspid and first molars. Here often gold is very conspicuous, and there is a chance for doubt in regard to porcelain.

2. Why are combination gold and porcelain inlays indicated in these conditions? Because they combine the maximum of strength with approximately the maximum of esthetic effect.

3. *How Inserted.*—In anterior teeth the root canals must be treated and filled "according to Hoyle," the cavities well cleared of decay, and all thin enamel removed. The incisal edges may be well cut back till we are sure we have reached firm well-supported enamel, and then to make absolutely sure, take a little more with this kind of filling, a little less tooth substance, and a little more filling will not endanger the permanance of the work or make the tooth unsightly.

The root canal must now be enlarged sufficiently to allow the easy insertion of a post. This enlargement should be made laterally towards the mesial or distal depending which on the proximal surface of the tooth the filling is to be inserted. This is necessary, both for the removal of matrix and insertion of the inlay. After this has been done, the matrix, of pure gold, must be burnished into place, breaking it as little as possible. If the matrix does become punctured, use a small piece of gold the same thickness as matrix, puncture it with your post, wrapping it in cone shape around the post, and insert this in the root canal, and with your burnishers spread your cone till it comes in contact with the walls of the cavity, and covers your puncture in the original matrix.

Now pack into your matrix a combination of paraffin and camphor, which you have ground up in a mortar, and keep for swaging and removing matrices. Remove all together and invest, filling the matrix flush with solder.

This may now be returned to the cavity and the tooth restored with cement, giving the proper contact and contour. Remove and carve to allow for the thickness of gold, as in making a box inlay. Take the impression by imbedding in dental lac, and swage. Now remove cement, and solder corner to original matrix; cut out the labial surface partially, and make the inlay a solid one by filling with solder.

At this stage insert the filling, which is a completed gold inlay. If the contact point or any portion of the inlay be imperfect, add a little gold solder at that point. Trim the inlay ready for insertion, and with a fissure bur cut out the labial surface from the gingivo labio proximal angle to the incisal proximal angle, cutting it well over the proximo labial curve. Along the incisal edge leave a small portion of the gold showing as a protection for your porcelain inlay.

Cement the gold inlay in the cavity, and allow the cement to harden well. Then proceed to burnish your matrix for a porcelain filling in the labial cavity which now presents itself. Bake the porcelain inlay and insert.

We now have a filling with the greatest possible amount of strength, being completely supported with gold where any strain comes upon it, and, as I said, approximating the greatest esthetic effect, as it shows only a minimum of gold along the incisal edge.

To be brief with the second condition, make a solid gold inlay for your bicuspid or molar; cut out this inlay along the buccal wall of the cavity from the gingival near the point where any stress of mastication will come. The cut-out need be extended lingually only till it passes the point of vision. A porcelain inlay is now made and inserted.

This method of dealing with these cavities I believe to be an ideal one.

## METAL VS. VULCANITE FOR DENTURES.

BY GEO. S. MARTIN, L.D.S., D.D.S., TORONTO, ONT.

Read before Eastern Ontario Dental Association.

S. W. Foss in his clever poem, "The Calf Path," tells of a primeval calf carelessly wending its way through the pathless forests, thus making the beginning of a tortuous trail, which gradually became beaten by increasing travel until it became first a country lane, then a roadway of increasing importance, then the street of a village, until finally it became a bustling city thoroughfare, still crooked and inconvenient as when the calf wended its careless way through the woods. We have all of us felt the hampering influences of precedent and custom. We still do things in a certain prescribed way because our fathers did so, or because our teachers did so. Sometimes there comes a reaction against established custom which may or may not be wise.

Half a century ago the dental profession followed a well-beaten path in making of dentures on gold bases. The advent of vulcanite was hailed with loud acclamations by the rank and file of the profession, and the pendulum swung so far in the opposite direction that a very small percentage of the graduates in dentistry of the last twenty-five years could make a passable denture on a gold base. The application of vulcanite in making dentures has been looked upon and spoken of as one of the greatest boons ever given to the world. It is to our mind, however, much to be regretted that the vulcanite plate ever was made an article of general use.

While it is now generally understood that the angry, congested appearance of the tissues underlying a vulcanite denture is due principally to the heat retained under the denture by the non-conducting material, yet there are many cases where there seems to be an idiosyncrasy of some sort that makes the patient particularly subject to the influences of the coloring matter in the vulcanite. Only a few weeks ago I saw a case in which an aluminum denture was worn. The soft tissues of the palate were in as healthy a condition as if no artificial denture were worn, except a well-marked row of angry and inflamed spots, corresponding exactly in size and position to the points, where the use of a loop-punch had permitted contact of the vulcanite with the palate. In cases of this kind it cannot be successfully maintained that such congestion is due to unnaturally retained heat.

In the case of the vulcanite denture used without metal, we

believe the confined heat is a sure and certain cause of very rapid absorption of the alveolar process. This absorption goes on, of course, in increasing speed as the denture becomes loose and rocks from side to side in the using. It has long been the verdict of men giving all their attention and study to such subjects that vulcanite, if it has a place at all apart from being used for purposes of making attachments in dentures, should be confined to the making of dentures to be used only for a time after the extraction of the natural teeth. It makes a cheap and efficient temporary denture, and the absorption of the process will be accomplished under it in ten or twelve months, after which the dentist, we believe, should, and in the near future will invariably, recommend and insist in inserting some form of metal base for the more permanent denture.

Dr. Haskell, of Chicago, says in the February *Items of Interest*, "that patients should be dissuaded from wearing rubber for permanent work, and since aluminum makes so good and cheap a substitute there is no reason why rubber should be worn. Under rubber plates there is a constant change in about eighty-five per cent. of mouths, owing to the non-conductibility of heat. Under metal plates there is some change, but nothing as compared with rubber. Another fact to be considered, is that with the flat, ridgeless jaws better success can be attained with swaged metal plates than with rubber, and that, too, without the vacuum cavity. The fitting of a metal plate is simple when done by the use of simple methods."

Dr. R. C. Brophy says in December *Cosmos*: "Aluminum is the metal to which we seem now to be driven as a competitor to vulcanite in cost, and I believe that it is to aluminum that we must look to the eventual abandonment of the use of vulcanite in the making of base-plates. I believe that the use of aluminum swaged base-plates is infinitely more worthy of approval than is the vulcanite base, for in this metal, as in all metals, the property of free conductivity is present. I am of the opinion that the trouble occasionally experienced of swaged aluminum plates being disintegrated by chemical action of the secretions is due to impurity of the metal. Too much of the plate supplied the profession is the ordinary plate of commerce, which is not refined chemically pure."

Dr. J. B. Willmott, Dean of the Royal College, Toronto, writes: "While there are strong objections to hard vulcanite as a base for full artificial dentures, owing to its bulk and lack of conductivity of thermal changes, there are still stronger objections to its employment as a base for partial artificial dentures, on account of the necessary thickness of its margins, which, in contact with the lingual aspect of the natural teeth, practically close the interdental spaces and prevent the wash of fluids of the mouth over proximate surfaces of the teeth. The

possible good results of prophylactic measures are very largely nullified so long as, for a considerable part of every twenty-four hours, the fluids and partially soluble portions of food are held in the interdental spaces by the thick margins of a partial denture, thus facilitating prompt fermentation and the action of the resulting acids on the proximate surfaces of the teeth. The development of caries on these surfaces under the conditions noted, is only a question of time."

We take a very pardonable pride in recounting in our journals and conventions the very remarkable progress made by dentistry as an art during the past half century. A thoughtful survey of the situation will, however, force one to the admission that our progress has not been in the prosthetic laboratory, for whether it is due to the use of vulcanite, or not the average graduate of recent years from our colleges, affects a fine disdain of the making of dentures relegating it, where he can to a mechanic who never sees the patient, and who is prevented by lack of esthetic training from an intelligent comprehension of what constitutes harmony of the features, etc.

We have spared no pains and expense to perfect our operating rooms, while our laboratories are too often a place where we would hesitate to allow a professional brother to penetrate, as we are perfectly aware of its bareness.

Probably, taking city and country, we insert ninety per cent. of the dentures made to-day on vulcanite, instead of insisting that all dentures (except the very temporary ones made to allow time for the usual absorption) be made on gold, aluminum, or dentalloy, which is one-third platinum and two-thirds silver. The dental profession to-day is responsible for the ideas held by the laity on these questions. We have been told again and again by dentists that their patients would not have anything but "rubber plates." Of course they won't. They have been taught by the many years of usage that there is no other thing to wear. For the average patient a denture on gold is considered out of the question, on account of the price, and the dentist has hesitated to advocate aluminum at any lower price, because of the hard work connected with its production. To spend several hours extra labor on the production of an aluminum base, for a few dollars extra remuneration has not commended itself to us, and if aluminum has been mentioned it has been in a half-hearted way, that has not inclined the patient to take the suggestion. The man who talks crown and bridge work does crown and bridge work. The man who believes in and talks gold in molars and bicuspid inserts that kind of work; while his more timid brother, working for patients in the same walk of life, continues to insert seventy-five per cent. amalgam fillings. This goes to prove that we are responsible for the ideas our patients hold on these subjects. Imagine a

physician saying, "My patient won't stand for any of these recent and expensive drugs, but insist on blue pills and black draughts."

To quote again from that veteran authority, Dr. L. P. Haskell: "What is needed in the instruction in dental colleges for the construction of dentures upon metal plates, is the simplifying of methods. I have realized this, as I have had under my instruction in the post-graduate school, graduates of most of the dental colleges of the United States. Most of these dentists have so little confidence in their ability to successfully construct a denture on gold or aluminum that they abandon the attempt, and resort to vulcanite to the detriment of their patients. The patient should be informed of a most objectionable feature of vulcanite dentures, which is found in the long and well-established fact that vulcanite is a non-conductor of heat, which causes a retention of undue heat under the plate, and results in excessive resorption of the alveolar process thus causing a flat and ridgeless jaw. Where this condition exists better results in fit and adhesion can be produced by the use of swaged metal plates."

By the use of properly made fusible alloy, melting below the boiling point of water, and having neither appreciable shrinkage nor expansion, and hard enough to stand swaging upon without being marred, the problem of making bases of dentures has been solved. It is no longer necessary to tell patients they cannot have anything but the vulcanite denture. The accuracy of fit obtained is infinitely greater, as the metal die is poured into the moist impression direct from the mouth, thus shutting out the uncertainty caused by the shrinkage of impression and model in plaster. The intermediate steps of obtaining the metal die by means of moulding sand being left out, the chances are in favor of greater accuracy on that account.

There are several types of presses or swagers in which the hydraulic principal is made use of. In some of these presses an immense pressure is applied by means of a screw, thus compressing the yielding counter die material in such a way as to force the metal blank into close contact with the metal die; while in another type the pressure is applied by means of a heavy swaging hammer with quick, heavy blows. This latter method, as exemplified in the Olivian Swage outfit, is proven the most useful and accurate, as by the screw press method the slow pressure will cause the metal die "to flow," as Dr. G. V. Black has proved that the amalgam filling flowed under the pressure of mastication. By this method a full metal denture may be swaged ready for fitting in the mouth in thirty to forty-five minutes from taking the impression. Is it too much to expect that with these improved methods there will be a great and beneficial change brought about. If dentists are anxious



to do the right thing for the patients, who confide in them and pay them for advice, they will in a very short time create a demand for a better class of work, a class of work in which the practitioner can take more pride.

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## BANDAGING.

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BY R. J. READE, M.A., M.D., D.D.S., TORONTO, ONT.

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Read before the Eastern Ontario Dental Association.

Bandaging is a very interesting subject. There are a number of bandages for the various parts of the body, and the application of these different bandages is not a laborious undertaking to master. But for our purpose it is not necessary that we should attain a proficiency in the application of all the bandages. We are meeting the demands of our profession if we confine ourselves to the head bandages. Nor is it really necessary that we should be expert in all the head bandages, for a number of them in no way pertain to the demands of our profession. But there are two head bandages that it would well repay us to master. I will speak of them further on.

In considering bandages, the first question that we would naturally put to ourselves is: What are the uses of bandages?

1. They are employed to hold dressings in place.
2. They are used in making pressure, as in the case of enlarged veins.
3. They are required for holding splints in their proper position when they are placed in cases of fracture.
4. They retain the parts in position after a dislocation is reduced.

Having ascertained the uses of bandages, we next inquire of what materials may bandages be made? There are a number of substances which have been employed to make the bandage, as linen, crinoline, flannel, cheese cloth, rubber sheeting, muslin or cotton, bleached or unbleached.

I would now like to draw your attention to the roller bandage. The material for the bandage is rolled for convenience to facilitate the application of the bandage to the part, and it is cut into different lengths and widths suitable for the required purpose. It should consist of one piece, and must have no seams, for seams would irritate the part.

We now must know how to prepare a bandage. First, we obtain the material—for example, unbleached cotton—and cut off the desired length, say three yards. Secondly, we tear it into strips of the proper width. And, lastly, we roll it. Next we

wish to know how to roll it. This may be done by hand or by machine. The method of making the roll by hand is as follows: One extremity of the muslin is folded several times, till a small roll is made, and the extremities of this are held by the thumb and index finger of the left hand, while the free extremity of the material is grasped by the thumb and index finger of the right hand, which, by alternate supination and pronation, rotates the cylinder till the roll is formed.

The method of winding the bandage by the bandage-winder is as I now show you (demonstrating with the bandage-winder).

It is to be noted that there are several parts of a bandage, which are designated as follows: First, the initial extremity, or free end of the bandage; second, the terminal extremity or that end in the centre of the roll; third, the body of the roller, that is, the part between the two extremities; fourth, the external surface; and fifth, internal surface.

The following is a list of the dimensions of the different bandages:

For the hands, fingers, and toes . . . .	1	in. wide, 3 yds. long
Head bandages . . . . .	2	in. wide, 6 yds. long
For the arms and legs . . . . .	2½	in. wide, 7 yds. long
For the thigh, groin, and trunk . . . .	3	in. wide, 9 yds. long

There are several general rules to be noted in the application of a bandage:

1. Apply the external surface of the terminal extremity on the part.
2. The turns are to be applied smoothly and with equal pressure.
3. Care must be taken that the bandage is not applied too tightly, as serious results may follow, as, for example, gangrene due to the interference with the circulation.
4. The terminal extremity may be fixed either by sewing or a safety pin.

A bandage is removed by gathering up the loose end as the bandage is unfolded and transferring the folds from one hand to the other.

There are several varieties of bandages, such as (1) the circular; (2) the oblique; (3) the spiral; (4) the spiral reversed; (5) the spica, which has its turns made so as to form the Greek letter lambda  $\lambda$ ; (6) the figure eight, as the Barton bandage; (7) the recurrent.

We will confine our attention to the head bandages, and of these we will choose three as having the greatest application to our professional needs. The ones to be described are (1) the Barton bandage; (2) the Modified Barton, and (3) the oblique bandage of the angle of the jaw. As before stated, for the head bandages we select a roller made up of material two inches wide and six yards long.

The Barton bandage is used in cases of dislocation and fracture of the lower jaw, and also to retain dressings to the chin and head.

The technique of the application of this bandage is much simplified if it is borne in mind that the several turns are prevented from slipping by making use of several prominences on the cranium, namely, the occipital protuberance and the two parietal eminences. The initial extremity of the roller is placed on the head just below the mastoid process. The bandage is now carried below the occipital protuberance, then up, under and in front of the parietal eminence, thence across the vertex of the skull and down over the zygomatic arch, under the chin, up over the zygomatic arch of the opposite side, then over the vertex of the skull, crossing the former turn in the median line, and down, in front of and below the parietal eminence, to the point of commencement. The bandage is now carried below the occipital protuberance, forward below the ear, and over the chin, backward below the ear on the opposite side to the point where the initial extremity was placed. This figure of eight turns over the head, and the circular turn from the occiput to the chin is continued till the roller is finished, each turn exactly overlapping the preceding one. The terminal extremity is now fixed. Additional fixation is gained by securing the turns where they cross.

The Modified Barton is used to gain additional security for the Barton. It is just the same as the Barton, with the addition of a circular turn passing from the occiput around the forehead. This circular turn is interposed at each turn of the Barton bandage. That is to say, after a complete turn of the Barton, the bandage is carried under the occiput, forward above the ear, across the forehead, and back over the ear to the point where the initial extremity was placed.

*The Oblique Bandage of the Angle of the Jaw.*—Its uses: A compress for fracture of the angle of the jaw; to hold a dressing to the lower part of the chin, the vault of the cranium, the side, the face, or the parietal region. In the case of an abscess threatening to break externally on the cheek, it is useful in the application of a lead compress to support the tissues while the abscess is diverted to discharge internally, so as to avoid an external scar. To apply the bandage, the initial extremity of the roller is placed just above the left ear, and if the application of the bandage is for the left angle of the jaw the roller is carried from left to right around the occiput; but if it is required for the right angle of the jaw, the bandage is carried from left to right around the forehead. After two turns of the roller have been made for the purpose of fixation, from the forehead to the occiput, the bandage is allowed to drop down on the neck behind the ear, and is brought forward below the chin to the angle of the jaw; then it is carried upwards over the cheek close to the angle of

the orbit, thence across the vertex of the skull and down behind the ear. The oblique turns over the vertex and under the chin are continued until the space is covered, each turn overlapping the preceding one as it passes from the edge of the orbit towards the ear. The bandage is then carried to a point just above the ear on the opposite side, and reversed and finished by one or two circular turns from occiput to forehead. The bandage is then secured in the usual manner.

You can procure from your druggist the bandages ready rolled, and if this paper is published in the DOMINION DENTAL JOURNAL you can readily follow the description of the application of the bandages, and become proficient in their application in a very short time.

I trust this paper has been of some interest to you. Dr. Smith is responsible for it, as it was at his request that I gave it. I am always glad to do what I can in the interest of the Eastern Ontario Dental Association, and I can assure you that I always look forward with pleasure to this meeting, as the men who belong to it are right good fellows and capital hosts.

## Selections

### THE RATIONAL PRINCIPLE OF LOCAL ANESTHESIA.

BY HERMANN PRINZ, M.D., D.D.S., ST. LOUIS, MO.

Read before the Missouri State Dental Association.

Local anesthesia may be produced in two definite ways— first, by the application of substances, topically or by hypodermic injection, which produce local anemia; and second, by the hypodermic injection of drugs which act as inhibitors of the sensory nerve fibres.

According to present therapeutical conceptions it is generally recognized that a drug or combination of drugs which simultaneously produces local anemia and inhibition of the sensory nerves in a circumscribed area of tissue is the logical solution of the question of local anesthesia. Certain important factors, however, relative to the physiological and physical action of the solution employed for hypodermic injection upon the cell govern the successful application of such methods. It is of prime importance, therefore, to comply with the laws regulating the absorption of injected solutions, viz., osmotic pressure.

If we separate two solutions of salt of different concentration by a permeable membrane, a continuous current of salt and water results, which ceases only after equalization of the density of the two liquids, viz., equal osmotic pressure (according to Boyle-van't Hoff's law), is established. The current passes in both directions, drawing salt from the stronger to the weaker solution and water *vice versa*, until osmotic equilibrium is obtained. The resultant solutions are termed isotonic (De Vries). In organized nature these osmotic interchanges play an important factor in regulating the tissue fluids. The life of the cell depends upon the continuous passage of these tissue fluids, which furnish the nutrient materials, consisting of water, salt and albumen. These chemicals are normally present in certain definite proportions. A further important factor teaches us that all aqueous solutions which are isotonic possess the same freezing point. This law of physical chemistry has materially simplified the preparation of such solutions. The freezing point of human blood, lymph, serum, etc, has been found to equal approximately  $0.55^{\circ}\text{C}$ ., which in turn corresponds to a 0.9 % sodium chlorid solution. Such a solution is termed a physiological salt solution. A slight deviation above and below the normal percentage of the solid constituents is permissible. When physiological salt solution is injected into the tissues in moderate quantities neither swelling nor shrinkage of the cell as such occurs; therefore no irritation results, and in consequence no pain is felt. Other bodies which are equally soluble in water act in the same manner, with the exception of the salts of the alkali and earth

metals, such as potassium or sodium bromid, for example. The latter substances produce intense physical irritation, followed, however, by proionged anesthesia, and in consequence are termed by Liebreich painful anesthetics.

#### MEANS OF PRODUCING LOCAL ANEMIA.

Local anemia or ischamia, viz., a temporary constriction of circulation, prevents, as it has been experimentally shown, the rapid absorption of fluids which are injected into the infected area. The more important means applied for such purposes are:

1. The Esmarch elastic bandage.
2. The application of cold.
3. The extract of the suprarenal gland.

Some observers have maintained that local anemia, as such, produces anesthesia. This, however, is not the case. It is merely an important means to confine the injected anesthetic to the anemic region and thus bring about an increased and prolonged action of the drug, and also enhances its deeper action. Consequently the concentration of the anesthetic solution may be of a lower percentage, which of course lessens the danger of intoxication.

For plausible reasons the Esmarch elastic bandage cannot be made use of for dental operations. The application of cold, especially chloride of ethyl in the form of a spray, for such purposes is of some importance. Ethyl chloride boils at about  $12^{\circ}$  C., and a stream of this chemical, eliminated from a capillary tube by the heat of the hand and directed upon the gum tissue, abstracts heat very rapidly until all functions of the tissues, including those of the sensory nerves, are temporarily suspended. This anesthesia is only superficial and of rather short duration. Very much care should be exercised in not "overfreezing" the tissues, as gangrene is liable to result.

Within the last decade the active principle of the suprarenal gland has demanded extensive comments in therapeutical literature. The extract of the gland when introduced into the system, even in extremely small doses, temporarily raises the blood pressure. Large doses finally reduce the blood pressure and heart failure results; the respiration at first quickly increases, but slows down and finally stops with the last expiration. When injected, a pronounced local anemia is produced.

Ever since the introduction of the suprarenal gland into therapeutics a large number of preparations have flooded the country, which are advertised under a variety of names. Probably the best-known product is adrenalin. Adrenalin is the active principle of the suprarenal gland as isolated by Takamine and sold in the form of the soluble hydrochlorid salt. On account of its powerful action it is usually offered as a diluted solution. This latter solution is marketed by Parke, Davis & Co., and presents adrenalin chlorid dissolved in normal sodium chlorid solution in the proportion of 1 to 1,000, with 0.5 % of chloreton added to it as a preservative, and whenever in the future we refer to adrenalin we wish it to be understood that the above solution is meant.

It is somewhat difficult to say who first suggested adrenalin as a dental remedy. It seems to us, however, that Dr. G. T. Carpenter, of Chicago (1901), deserves the right of priority. At first it was advocated as a local hemostatic, and only later was it combined with cocain and other anesthetics for the purpose of reducing the toxic danger of these drugs. It was soon found that adrenalin exercises a powerful action upon the circulation, and it requires great caution in its administration. The increased blood pressure manifests itself in a rapid heart-beat and a slight tremor of the limbs. In large doses it discolors the skin, resembling Addison's disease, and occasionally produces local gangrene. All these symptoms may be avoided by properly adjusting the dose. We may safely say that two drops of adrenalin, corresponding to about 1-500 grain of adrenalin chlorid, added to one c.c. (15 drops) of a suitable cocain solution, is amply sufficient to produce the desired effect.

#### THE LOCAL ANESTHETICS.

From the large number of those chemicals which are advocated for the purpose of producing local anesthesia, I have selected for my present consideration only three, viz., cocain, eucain and tropacocain. These three drugs represent practically the majority of those agents which are employed in dentistry for the purpose in view. While eucain and tropacocain present certain apparent advantages over cocain, viz., their solution can be sterilized by boiling and they are less toxic, they also possess certain disadvantages, viz., they require larger doses to produce the desired effect, and, especially, eucain is prone to establish edema. There are certain other important disadvantages, however, associated with eucain and tropacocain when employed in conjunction with adrenalin, to which we will refer later on.

Taking cocain as the prototype of a local anesthetic, we may state, without going too deep into detail, that its physiological action manifests itself as a general protoplasm poison, and that it possesses a definite selective power for the sensory nerve elements, which convey sensation of pain. It possesses a definite chemical affinity for living protoplasm, with which it enters into a loose combination. This temporary union is the factor which produces its local anesthetic effect. In due time this union breaks up, again releasing the cocain—not as such, however, but as an inert compound of some simpler structure. In other words, the tissues rid themselves of the poison in some unknown manner. The heart is powerfully accelerated by larger doses of cocain, finally slowing down and becoming weak. The respiration is also at first stimulated, later on becoming depressed and dyspneic, and death results from its gradual secession. No direct antidotes are known, consequently the treatment of general intoxication is purely symptomatic. Recumbent position of the body and inhalation of a few drops of amyl nitrate to overcome anemia of the brain are the first important steps in dealing with collapse, which should be followed in severe cases by stimulation of the heart with small doses of

nitro-glycerin and injection of strychnin, together with artificial respiration.

The relative toxicity of a given quantity of cocain in solution depends upon the concentration of the solution. Reclus and others have clearly demonstrated that a fixed quantity of cocain in 5 % or 10 % solution is almost equally as poisonous as five times the same quantity in a 1-5 % solution. From the extensive literature on the subject, we are safe in fixing the strength of the solution for dental purposes at 1 %. This quantity of cocain raises the freezing point of distilled water just a little above  $0.1^{\circ}\text{C}$ . To obtain an isotonic solution corresponding to the freezing point of the blood 0.8 % of sodium chlorid must be added. Having thus prepared a cocain solution which is equal to the blood in its osmotic pressure upon the cell wall, it is now necessary to aid the slightly vaso-constrictor power of the drug by the addition of a moderate quantity of adrenalin, thus increasing the confinement of the solution to the injected area by producing a higher anemia, for the twofold purpose—first, to act as a means of increasing the anesthetic effect of cocain, and second, to lessen its toxicity upon the general system by slower absorption. As stated above, two drops of adrenalin added to one c.c. of the isotonic cocain solution is sufficient. If adrenalin is employed in conjunction with eucain, much of its vaso-constrictor power is lost, while tropacocain totally neutralizes this action of adrenalin. From the above statement it is clear that the local anemia is produced by adrenalin and the local anesthesia by cocain. The combination of the two phenomena, however, is imperative to produce the desired results. The cocain-adrenalin solution should be made fresh at the time it is used; then only can perfect results be expected. Nothing in the nature of a preservative or so-called antidote should be added; at their best they are worthless.

In this communication, according to the title of the paper, I have said nothing about the instruments to be used, the technique of the injection and the employment of solutions for special purposes, such as the much-lauded pressure anesthesia. Each of these factors requires detailed discussion in itself and is left for some future period to be dealt with.—*The Dental Era*.



## LINING CAVITIES FOR METALLIC FILLINGS

BY R. B. TULLER D.D.S.,

Clinical Professor of Operative Dentistry, Chicago College of Dental Surgery.

The most thorough, conscientious, painstaking and skillful practitioners of dentistry know the difficulties of obtaining perfect results as concerns fillings of gold or amalgam that seal the cavity hermetically. Hermetically sealing means to make a filling that permits of no infiltration of moisture between it and the cavity walls. Operators classed as above will have, undoubtedly, a great measure of success because of their skill and a full and intelligent comprehension of the nature of the material used, and of how to manipulate it to obtain absolute contact to all the inequalities of the cavity walls and margins, so that the persistent moisture of the mouth cannot get in after their work is finished.

But the average operator, capable in many respects, fails oftener in this particular than in any other work, and especially in the use of cohesive gold with its ever-increasing tendencies, under manipulation, to resist the effort to adapt it.

If an operator is positive of his ability to seal the cavity he undertakes to fill with gold or amalgam, he would ignore any lining of other material; except possibly in some instances as a non-conductor of thermal changes in teeth liable to be sensitive to such changes after metallic fillings are inserted. His lining then would usually be limited to an area immediately covering the pulp. But the operator who may know that he is not sure in this work—who, perhaps, has lost some conceit in his ability through sad experience, and “chickens coming home,” etc.—will do himself greater justice and patients better service if he will study and practice some method of cavity lining that is impervious to moisture. The manipulation of cohesive gold is the *bête noir* of many a well meaning operator; but when it comes to plastic amalgam he feels pretty certain of his ability there to get perfect contact to cavity walls.

Yes, but amalgam should not be too plastic, too soft, with a surplus of mercury, for if so the filling fails to become sufficiently hard and in time shrinkage or change of shape occurs, leaving gaps between filling and tooth. Using amalgam as dry as it is possible to manipulate produces better fillings; but then comes the difficulty of adapting it perfectly to cavity walls. Comprehensive and painstaking effort is required.

A good test of one's ability in packing both gold and amalgam is to use a small but strong glass tube with an opening about an eighth of an inch in diameter. Plug the opening with plaster, leaving a pit or cavity which, when plaster is thoroughly dry, is to be filled. Wrap paper around the tube at this end to hide a vision of the cavity through the sides, and then fill as a cavity in a tooth would be filled, endeavoring to use the same manipulative care, no more, no less. When done, remove the paper and observe through

the glass what faults, if any, may be found in the contact. If the naked eye does not disclose much, try a powerful magnifier. Both materials, gold and amalgam, are likely to show defects. If they do not, the work has been well done; but the contrary will be the result in many instances, perhaps to the surprise of the operator, and especially as concerns the amalgam, considered so easy of manipulation.

Cavity lining material has a demand, as is evidenced by several preparations on the market. The claim for all is that when applied and allowed to harden they are unaffected by moisture. Such should be their quality, for while it is covered with the filling material proper, there may be, and probably is, exposure however minute at some or all of the margins, unless the application has been made so as not to come quite to the margin. This in fact is the usual way of application—leaving the marginal line uncovered. This, however, means that the filling material must surely make absolute contact there.

These so-called cavity linings are some sort of varnish, or the gums from which varnish is made, but in these preparations the gum or gums are dissolved in some highly volatile liquid like ether. When the cavity is coated the ether quickly evaporates and the lining is soon hard. Copal-ether varnish has been used a great deal. Gum-copal, dissolved in ether until a thin varnish is obtained. This will thicken up in the bottle by the evaporation of the ether, and must frequently be thinned again, as a thick, sticky varnish is *not of use*. The thick layer would take a long time to harden and such a layer is not desired. On the contrary, a very thin layer. A thin application finds its way into every minute recess and into the tubuli of the dentine closing the same, and upon this quality rests the theory that the lining prevents further decay even with a filling that would be considered leaky without cavity lining.

All practitioners have occasion at various times to leave a little layer of affected dentine over a pulp rather than produce exposure, or get too close to it. Such a cavity thoroughly dehydrated, then preferably medicated, and dried out again, and then painted with the thin varnish, is pretty secure against further decay from any germs that remain. If they have not been rendered inert from the medication (germicide) they are safely buried in the layer of varnish.

Of the special virtues of the lining materials on the market over that given above (which any dentist can quickly make for himself) I know nothing, but I doubt not that they are efficient, since the aim has been to make them so as to fill our requirements, and if one is better than another it is in the more intelligent selection of a gum that more perfectly resists moisture. I have seen samples of some, holding two bits of glass together that have been continuously submerged in water for years without any apparent change.

But water is not saliva. The conditions were not those of the mouth. Saliva will unquestionably digest some of these resinous

gums, and bearing that in mind, any exposure of this kind of lining should perhaps be guarded against, at least should not be painted in projection out over the margins of cavity. Keep rather within the line. The opinion of the writer is, however, that in the exceedingly thin line of exposure of cavity lining around the edge of fillings, while possibly susceptible to some extent to the digestive saliva, a condition of self-limitation would soon be established. Anyway, penetration of moisture, first disintegrating the lining, would be an exceedingly slow process, and much to be desired over the usual leak of faulty fillings.

The resinous substance known as amber would serve to supply resisting qualities equal to if not better than any other gum capable of being prepared for cavity lining, and such a lining is being exploited. The writer has used it, but not long enough to make any report. It is exploited by a dentist who has had long years of practice and experience, and who certainly knows what essentials are required.

Aside from these resinous linings, oxy-phosphate of zinc is used and has a place and a value. When gold is to follow, the usual practice is to smear a plentiful layer over the walls, or even fill the cavity in some instances, removing after hardening all that is not desired. Deep undercuts that cannot be properly filled with gold are lined or filled with cement and followed with gold.

In some instances where a layer of cement is desirable in the bottom of a cavity, a good-sized pellet of gold is pressed carefully into the cement, spreading it toward the walls, this providing after cement has set a good starter for the gold that is to follow.

There are many cases where a lining of cement is desirable when amalgam is to follow, and especially where the loss of dentine leaves a section of translucent enamel, which would show blue with the amalgam immediately in contact. One very satisfactory way to proceed is to cover the cavity walls with cement, and then having amalgam mixed and ready crowd it in in a way to force out the surplus cement, and finally clearing the margins of cement so that the finished filling shows no line of cement exposed. This might not inaptly be called an amalgam inlay, and would not be a bad idea to apply in nearly all cases where amalgam is to be used. If painstakingly done, the method is ideal. It should be done with some rapidity to be able to force out surplus cement, and especially at obscure margins before crystallization begins.

There may be some instances where a resinous or varnish lining precedes the cement. The pain that sometimes obtains for a while from cement in contact with sensitive dentine may be avoided by previously using resinous lining.—*Am. Dental Jour.*

## DISINFECTION OF THE MOUTH.

BY DR. MONTEFUSCO.

Dr. Montefusco has carried on a series of investigations in view of determining a practical method of mouth-disinfection. He first brushed his teeth, then rinsed his mouth thoroughly with distilled water in order to remove all particles of food. Immediately afterward he again rinsed his mouth with 20 c.c. of sterilised water, which was subsequently used to prepare a number of Koch plates. No growth of colonies developed in these plates. The first brushing and rinsing was then omitted, and with the water of the second rinsing a number of plates were again prepared. In the latter each cubic centimeter contained from 435 to 641 colonies. Omitting the first thorough brushing and rinsing, the tissues of the mouth were again brought in contact with the 20 c.c. of distilled water. After the rinsing, the quantity of water was diluted with an equal volume of a solution containing fresh oil of peppermint 1 c.c., alcohol 10 c.c., and distilled water 1,000 c.c. A number of plates were then inoculated, with the following results: Number of colonies obtained from water expelled from the mouth after rinsing and undiluted with antiseptic solution, 544; after two minutes' contact with antiseptic solution, 286; after five minutes, 182; after ten minutes, 95; and after fifteen minutes, 82. Boric acid, potassium chlorate, and sodium benzoate diminished but slightly the number of colonies.

From his long series of experiments Montefusco has concluded that the most satisfactory method of disinfecting the mouth consists in rinsing it, and then brushing the teeth with sterilised brush and water during fifteen minutes. According to this investigator the aromatic essences have practically no germicidal effect upon certain pathogenic bacteria, such as the bacilli typhoid and cholera; their action being only slightly more effective upon the bacillus diphtheriæ and the diplococcus pneumoniæ.—*La Estomatologia*, Madrid, April, 1906.

On page 793 of the July (1906) *Cosmos* Dr. Edw. C. Kirk publishes the following interesting data:

**THYMOPHEN.**—Equal parts by weight of crystallized carbolic acid and thymol crystals rubbed together in a mortar or combined by gentle heat in a beaker or porcelain dish results in a fluid of oily consistence similar in physical characteristics to the well-known campho-phenique. It is without escharotic properties, does not coagulate the cuticle when applied topically, and has high germicidal efficiency. The peculiar value of thymol in the treatment of exposed pulps, even when superficially infected, is well known and has been the subject of scientific study as well as of practical observation for several years. Solutions of thymol have

not heretofore been of much utility in dental practice, owing to the lack of suitable menstruum; hence the virtues of thymol as a root-canal dressing have not been as practically available as they should be. The combination here recommended, and which the writer has taken the liberty of designating as thymophen, is an ideal medicament for use as a canal dressing, taking the place of campho-phenique or the essential oils, because of its diffusibility, its sedative, non-irritant and superior germicidal properties. A large clinical use of the preparation is the writer's warrant for strongly recommending it to the dental profession.

Looking over our note-book, we find that in 1898 we first used and recommended precisely the same mixture, and we referred to it in an essay entitled, "The Essential Oils: Their Value and Use in Dentistry," published on pages 433 *et al.*, Vol. LIV., 1900, of the *Dental Register*, as follows:

THYMOL is a colorless, crystalline substance, having the agreeable odor of the oil and a pungent, aromatic taste. It melts at about 112 degrees F., is freely soluble in alcohol, ether, chlorform, fatty oils, but slightly in water (1:200). When triturated with camphor, menthol or Chloral it liquefies. The melted thymol dissolves in liquefied carbolic acid. Thymol in its antiseptic action is almost equal to carbolic acid, and in some respects even better. It is not so caustic as the former. As it is more destructive of putrefactive substances and more persistent in its action, it at once recommends itself as a useful agent for treating putrescent root canals. A mixture of equal parts of liquefied carbolic acid and thymol is superior to carbolic acid alone and far superior to any of the essential oils. Thymol is very penetrating. Combined with other agents it has been used by Paquet with great success for the preservation of anatomical specimens; and its superior germicidal power has been recently sufficiently demonstrated by the British Government in India in the treatment of the bubonic plague. Its great obtunding and astringent qualities make it a reliable dressing for inflamed pulps, as recommended by Miller years ago. It is curious to note that this agent, in spite of its superiority in many ways over the other essential oils, is comparatively little used by American dentists, while its established value is recognized by the profession in Europe.

A year or two later we modified this mixture slightly by adding to it a small quantity of gum camphor, the new formula reading as follows:

Thenol cryst.....	
Thymol.....	aa 3 ij.
Camphor.....	3 j.

Melt together by gently heating in a dry test-tube.

This new combination has given even better results than the older formula; the camphor materially modifies the cauterant effect of the new phenols. For the last six or seven years it has been employed in the college infirmary and in our own practice with the most pleasing results, and we certainly can most heartily indorse Dr. Kirk's laudable recommendation of this drug combination.—*Editorial in The Dental Era.*

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**Proceedings of Dental Societies.**

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**REDUCED R.R. RATES TO ATLANTA.**

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A Round Trip rate of one fare plus 25 cents has been secured in all territory south of the Potomac and Ohio, and east of the Mississippi.

In all other territory the rate of one and a third fare on the certificate plan has been granted. Delegates will pay full fare going to Atlanta, taking a receipt therefor, which will entitle a return at one-third rate. Tickets will be on sale accommodating those who attend the Faculties and Examiners' Association as well as the National Dental Association, and the return trip date from Atlanta is September 25th.

The Ocean Steamship Co. will on September 11th sell tickets at one rate plus \$5.00 for the round trip from New York and one fare plus \$6.00 from Boston.

J. D. PATTERSON,

*Chairman Executive Committee, National Dental Association.*

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**ST. LOUIS DENTAL SOCIETY CELEBRATES WITH A  
GOLDEN JUBILEE.**

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The St. Louis Dental Society, the oldest continuous dental organization in the world, will celebrate its Golden Anniversary with a banquet and entertainment some time in November, when the fiftieth year of its existence will be completed. Eminent men in the profession outside of the City and State will participate.

More detailed announcement will be given in October issue.

J. B. NEWBY,

*Chairman Committee on Arrangements.*

W. F. LAWRENZ, *Secretary.*

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**MANITOBA DENTAL ASSOCIATION.**

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Members of the Board of the M.D. Association elected at the bi-annual meeting of the Association: For a four year term, Dr S. W. McInnis, Brandon; Dr. G. F. Bush, Winnipeg; Dr. H. G.

Croft, Souris. For a two year term, Dr. K. C. Campbell Winnipeg ; Dr. C. F. Walsh, Winnipeg ; Dr. J. M. Rogers, Boissevain.

At a subsequent meeting of the Board the officers were elected as follows: President, S. W. McInnis ; Secretary, C. H. Walsh ; Registrar, A. G. Croll ; Treasurer, K. C. Campbell.

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### HARVARD DENTAL ALUMNI ASSOCIATION.

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The following named officers were elected for the ensuing year at the Thirty-Fifth Annual Meeting of the Harvard Alumni Association held in Boston, Mass., June 25th, 1906: President, Arthur W. Eldred ('90), Worcester, Mass. ; Vice-President, Harvey W. Hardy ('96), Boston, Mass. ; Secretary, Waldo E. Boardman ('86), Boston, Mass. ; Treasurer, Harold DeW. Cross ('96), Nashua, N.H. ; Executive Committee, Waldo E. Boardman ('86), Boston, Mass. ; Arthur A. Libbby ('99), one year, Boston, Mass. ; William W. Marvell ('00), two years, Fall River, Mass. ; Waldo E. Boardman ('86), Secretary.

Boston, August 1st 1906.

The next meeting of the Canadian Dental Association will be held in Laval University, Montreal, September 5, 6, 7, 8, 1906

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# Dominion Dental Journal

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## EDITOR:

A. E. WEBSTER, M.D., D.D.S., L.D.S. - - - TORONTO, CAN.  
3 COLLEGE STREET

*To whom all Editorial Matter, Exchanges, Books for Reviews, etc., must be addressed.*

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*All Communications relating to the Business Department of the Journal must be addressed to THE NEBBITT PUBLISHING COMPANY, Limited, 44 Adelaide Street West, Toronto, Canada.*

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**VOL. XVIII.**

**TORONTO, AUGUST, 1906.**

**No. 8.**

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## DR. N. PEARSON MOVES TO AURORA

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Dr. N. Pearson, who has been in practice in Toronto for upwards of thirty years, has moved to Aurora. Before leaving Toronto an informal dinner was given Dr. Pearson at the R. C. Y. C. Among those who took part in wishing Dr. Pearson a long and happy life together with a practice equal to his desires were Drs. Caesar, Snelgrove, Clark and Sparrow.

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The next meeting of the Canadian Dental Association will be held in Laval University, Montreal, September 5, 6, 7, 8, 1906



### DOMINION DENTAL COUNCIL MEETING

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The Dominion Dental Council of Canada will meet in Montreal September 3rd, 1906. It is hoped that at this meeting all the provinces of Canada will have entered the agreement to have one standard of dental education in Canada. The Council held its first examination in June of this year, when over thirty candidates presented themselves for examination in whole or in part.

At this meeting there may have to be some modification of the details of holding the examination, so that the work of the presiding examiners may be more uniform and that there may not be so much delay in issuing certificates. There will be many matters of extreme importance to the profession brought before this council meeting.

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### THE COUNCIL EXAMINATION AND REPORT OF CANDIDATES

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The Dominion Dental Council held its first examination in June, 1906. Candidates wrote at Halifax, Toronto and Winnipeg. Thirty in all. Three candidates took the modified examination because of having an L.D.S. previous to 1906 and not being ten years in practice. Dr. J. W. Carum was the only successful candidate in this class. Seven candidates took the whole examination; three were successful, Drs. Clay, Glover and Jones. The balance of the candidates took only part of the examination, all of whom were successful. This examination is undoubtedly the most difficult and far reaching examination set in dentistry to-day. The conditions surrounding it are unusually exacting. There is no possibility of a candidate getting a pass who does not know thoroughly all of the subjects of examination. All the candidates write on the same papers at the same time, and all the papers in each subject are examined by the same examiner whose report to the council is final. There can be no modification of the examiner's report. Every candidate knows that if he has passed the examination that he has obtained an average of 60 per cent. and not less than 50 per cent. on each paper. The candidates must have studied dentistry for four years in a Canadian college and hold a matriculation certificate of some Canadian university or a certificate of the British Medical Council. The papers set this year were

with one or two exceptions the best papers we have seen at any dental examination.

The following report will indicate the breadth of the examination and also the standing of the various candidates :

#### REPORT OF EXAMINATION.

Subjects of examination : Practical and Operative Dentistry, Practical Prosthetic Dentistry, Materia Medica, Therapeutics and Anaesthetics, Anatomy, Physiology and Histology, Bacteriology and Pathology, Jurisprudence and Ethics, Orthodontia, Medicine and Surgery, Physics, Chemistry and Metallurgy, Operative Dentistry, Prosthetic Dentistry.

Candidates who passed and are entitled to the certificate of the Dominion Dental Council : Dr. J. W. Corum, D.D.S. ; Dr. J. W. Clay, D.D.S. ; Dr. W. R. Glover, D.D.S. ; Dr. E. C. Jones, D.D.S.

Candidates who wrote only Anatomy and Materia Medica and Therapeutics, and passed : A. McKenzie, J. G. Thompson, H. S. Cheny, G. H. McKeown, R. Hamilton, Chas. Little, J. F. Blair, H. B. Rickert, W. A. Matheson, A. L. Johnson, J. G. Roberts.

Candidates who wrote only on Anatomy and passed : H. W. Reid, G. J. Steel, L. Bancroft, B. G. Brownlee passed Anatomy, Physics, Chemistry and Metallurgy ; W. A. Black passed Materia Medica, Therapeutics and Anaesthetics, Anatomy, Physiology and Histology, Orthodontia, Medicine and Surgery ; D. H. Dow passed Anatomy, Orthodontia, Physics, Chemistry and Metallurgy, Prosthetic Dentistry ; J. A. Drummond passed Materia Medica and Anaesthetics, Anatomy, Orthodontia, Physics, Chemistry and Metallurgy, Operative Dentistry, Prosthetic Dentistry.

C. H. Juvet to take further examination in Pathology and Bacteriology.

J. A. Bothwell to take further examination in Anatomy and Medicine and Surgery.

W. H. Geddes to take further examination in Orthodontia.

T. P. Grady to take further examination in Pathology and Bacteriology, Orthodontia, Prosthetic Dentistry.

H. L. Watt to take further examination in Jurisprudence and Ethics, Orthodontia, Medicine and Surgery, Physics, Chemistry and Metallurgy.

H. M. Reid to take further examination in Jurisprudence and Ethics, Medicine and Surgery.

## COLLEGE OPENING IN TORONTO

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The School of Dentistry, of the Royal College of Dental Surgeons of Ontario, will open October 1st, 1906. This college has a course of study extending over four years, and gives especial opportunities for candidates preparing for the examination of the Dominion Dental Council of Canada, which is the highest qualifying examination in Canada. Besides this candidates are prepared for the L.D.S. examinations of any of the Provinces, and the D.D.S. examinations of Toronto University.

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## THE BOARD OF DIRECTORS OF THE R.C.D.S.

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At a special meeting of the Board of Directors of the R.C.D.S., held in Toronto, August 20th, 1906, the following appointments were made to the staff of the School of Dentistry: Dental History and Ethics, G. M. Hermiston, B.A., L.D.S., D.D.S., Toronto; Dental Medicine, R. J. Reade, M.A., M.D., C.M., L.D.S., D.D.S., Toronto; Orthodontia, Guy G. Hume, L.D.S., D.D.S., Toronto; Practical Bacteriology, A. A. Stewart, L.D.S., D.D.S., Toronto.

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## CANADIAN DENTAL ASSOCIATION

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The programme of the third meeting of the Canadian Dental Association will be in the hands of the profession shortly, and it will be noted that it is of unusual merit. The feature of inviting prominent citizens to hear the discussion of public school dentistry and army dental service is commendable. One marked feature of the recent meeting of the British Medical Association in Toronto was the invitation to the public to attend sessions. Dentistry, as medicine, holds a charter from the people to advance the science of healing, and should be glad to show them what progress is being made.

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The Canadian Pacific Railway will run a special sleeping-car from Toronto to Montreal, September 4th, to accommodate members of the Canadian Dental Association who wish to attend the meeting in Montreal September 5th-9th, 1906.

## Review

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*The Causes and Prevention of Dental Caries.* By SIM WALLACE, M.D., D.Sc., L.D.S. Published by Bailliere, Tindall & Cox, London, Eng.

This is a work of eighty pages, made up from essays written at different times by the author. It consists of two main features—the problem of susceptibility and immunity to dental caries, and the cause and prevention of dental caries. Under the first heading the author disproves to his own satisfaction the present theory of susceptibility and immunity of caries. He holds that teeth decay because of improper foods, and that, if children are fed upon materials which give their teeth and jaws proper exercise, there will be no decay of teeth. He claims that tough-fibre foods have a tendency to cleanse the surface of the teeth, and thus prevent caries. To substantiate these views, he points to the want of caries among those people who live upon tough foods, as compared with the presence of caries among the more civilized races. He points out that the physician is indirectly responsible for the increase of caries at the present time, because he recommends soft pulpy and sticky foods to every patient who is ill. And he further states as evidence of this fact, that nurses and attendants in hospitals are particularly prone to the decay of the teeth, because their foods are the same as the patients receive. This fact many of us have recognized.

The author has also proven the soundness of his theory, that inheritance has little to do with caries of the teeth. This he has demonstrated in his own family. His children, who have been taught to thoroughly masticate hard-fibre foods, have no caries in their teeth, while their parents at the same age had lost many teeth from caries.

The author seems to think that the idea of soft pulpy foods being a cause of dental caries is rather a new one—in fact, within the last eight or ten years. Having been taught myself some ten or twelve years ago by Dr. J. B. Willmott, Dean, Royal College of Dental Surgeons of Ontario, that such was the case, I thought I would ask Dr. Willmott how long it is since he set forth theories now proposed by Dr. Sim Wallace.

Dr. Willmott makes the following statement to me: "It is at least thirty years—during the first session of the R.C.D.S. My

teaching was that the cause of caries in the human teeth was imperfect development manifesting itself in a defect in the continuity of the enamel, the protecting covering of the dentine (the tooth proper), that the defect existed in a lack of coalescence of the enamel prisms at certain points, or a loose aggregation of the prisms throughout the entire tissue, very greatly lessening its resistance to chemical agents. I further taught that the growing tendency to the development of caries in succeeding generations was a part of the price we paid for luxuries of civilization. The degeneration of the teeth was due in large measure to the substitution of soft pulpy forms of food for infants and children instead of harder and tougher foods of a century ago."

I have many times ventured the prediction that if we could confine children from the time they erupt the temporary molars, say, two years of age, on dry food (without drink), so that it must be masticated before it could be swallowed, in three or four generations we should get back to teeth immune to caries. What is needed is exercise sufficient to create a demand for tooth-making material, and the foods ordinarily used will supply it in sufficient abundance. To obtain the exercise, food should be furnished in hard, dry or tough forms so that thorough mastication is a necessity. To develop good teeth it is not necessary to insist on the use of the whole wheat or oats or barley. Our ordinary foods contain calcium phosphate largely in excess of what we assimilate. Corn contains very little phosphate, and yet the negroes, who in slave times lived on parched corn and bacon, had excellent teeth. The exercise of the jaws necessary to masticate it develops a demand, which probably assimilates practically all the available phosphate.

# Dominion Dental Journal

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VOL. XVIII.

TORONTO, SEPTEMBER, 1906.

No. 9.

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## Original Communications

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### MINUTES OF DOMINION DENTAL COUNCIL, HELD IN MCGILL COLLEGE, MONTREAL, SEPTEMBER 4, 5 AND 6, 1906.

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Minutes of the meeting of the Dominion Dental Council held in McGill College, Montréal, September 4th, 1906, at 10 o'clock, the President, Dr. Harry R. Abbott, in the chair.

The roll being called, the following answered:

Prince Edward Island—Drs. Bagnall and Smallwood.

Novia Scotia—Dr. Thomson.

New Brunswick—Drs. Godsoe and Magee.

Quebec—Drs. Stevenson and Nolan.

Ontario—Drs. H. R. Abbott and A. M. Clark.

Manitoba—Drs. S. W. McInnis and Bush.

Saskatchewan—Dr. Cowan.

Alberta—Drs. Strong and Doyle.

Credentials having been called for, were presented by the above.

The minutes having been read, Dr. McInnis asked that the clause on page 21, which read, "Manitoba had accepted the resolutions of the Dominion Dental Council by law," be altered to read, "Manitoba had accepted the certificate of the Dominion Dental Council by law." This correction having been agreed to it was moved by Dr. Strong, seconded by Dr. Bagnall, that the minutes, as amended, be adopted.—Carried.

Dr. McInnis gave notice that he would move to make a number of amendments to the Constitution on recommendation of the Executive Committee.

Dr. Magee gave notice that he would move to amend the Constitution regarding the fee adopted for Class C.

Dr. Godsoe gave notice that he would move an amendment to the Constitution affecting the date of Class D.

Dr. Thomson gave notice that he would move to amend the Constitution by striking out the words, "and presiding examiners" in that clause on page 38, where it says they shall receive five dollars per day while in session.

The Secretary submitted some correspondence had with Dr. Weagant, of Saranac Lake, N.Y., and which correspondence showed that he had been there for medical treatment, for which reason alone had he been out of practice in Ontario for the previous two years.

Moved by Dr. Magee, seconded by Dr. Smallwood, that the correspondence be treated under the order of motions—Carried.

Dr. McInnis submitted the report of the Executive Committee, which reads as follows:

*To the Members of the Dominion Dental Council:*

Gentlemen,—We your Executive Committee beg leave to report that we met yesterday and decided to make to you the following recommendations:

We recommend that the requirements for Class A be amended by a special provision for those holding a B.A. or an M.D. as follows: Add to Section 1 of Class A: "In case the applicant be a B.A. or an M.D. it shall be sufficient for the applicant to show that he has been a bona fide student of dentistry for a period of thirty months, at least eighteen months of which has been spent in attendance at a dental college.

We recommend that Class B requirements be amended by striking out Section 3 of the regulations and substituting in lieu thereof the following: "Of being the holder of a valid and unforfeited certificate of license from the affiliated province in which he resides." The clause will then read:

Class B—All those who are on the first day of January, 1906, bona-fide students of dentistry in any of the provinces entering into the agreement shall, upon making application to the Dominion Dental Council, present the following evidence in the form required:

(1) (2) (3) Of being a holder of a valid and unforfeited certificate of license from the affiliated province in which he resides. The additional requirements for this class to remain the same as before.

We recommend that the certificate of provincial standing required for Classes C and D be amended.

We recommend that the following words be added to the requirements for Class D, the same to be inserted after the word "agreement," where it occurs in the first clause of the Constitu-

tion governing Class D: "And those who graduated from Canadian colleges during the year 1905." The clause will then read: "All those who on the first of January, 1905, have not been in practice for ten years, but who were on that date holders of valid and unforfeited certificates of license in any of the provinces or North-West Territories entering into the agreement, and those who graduated from Canadian colleges during 1905, shall, upon making application to the Dominion Dental Council, present the following evidence in the form required."

We recommend that the grouping of examination subjects be changed so as to make Therapeutics and Pathology subject No. 5, and that Bacteriology be taken out of subject No. 5 and added to subject No. 7, and that all those who take examinations in Class D be required to pass in subjects No. 1, 2, 3, 4, 5.

We recommend that applicants under Classes A and B be allowed to take their examination in any subject other than the first five papers after they have completed twenty months of studentship, the fee for such examination to be five dollars per paper.

We recommend that supplemental examinations be granted in those cases where the candidate has failed in not more than two subjects on the final examinations; that a fee be provided for such supplemental examination and that the matter of a minimum pass mark be reconsidered and that provision be made for refunding part of the fee in case of total failure.

We recommend that the application of Dr. A. H. Weagant be favorably considered.

Moved by Dr. McInnis, seconded by Dr. Cowan, that the report of the Executive Committee be adopted.

Moved in amendment by Dr. Thomson, seconded by Dr. Magee, that the report of the Executive Committee be received and discussed clause by clause.

The amendment having been withdrawn, the original motion was put and carried.

Dr. Thomson submitted the following resolutions from the Nova Scotia Association, viz.:

#### RESOLUTIONS RE DOMINION DENTAL COUNCIL.

*Resolved*, 1st. That the Dental Association of Nova Scotia hereby accepts the standards erected by the Dominion Dental Council, as published in the Regulations, 1905.

2nd. That the Provincial Board be authorized to deal with any matter that may be referred to this Association by the Dominion Dental Council between now and the next annual meeting.

3rd. That this Association concurs in the recommendation of Dominion Dental Council Committee on organization, that after



1906 the Council consist of one representative from each province. It is recommended:

1. That students of dental colleges recognized by the Dominion Dental Council be allowed to take their examinations in those subjects in which they have finally passed in college.

2. That graduates of foreign dental colleges, which, in the opinion of the Dominion Dental Council, provide teaching equivalent in quality and time to Canadian schools, who have been bona-fide students of dentistry for not less than forty-two months, have complied with the matriculation requirements of the Dominion Dental Council, of good moral character, and recommended by the Dental Boards of provinces in which they are registered as students, shall be entitled to examination by the Dominion Dental Council.

3. That the provincial incorporated bodies elect alternative representatives to the Dominion Dental Council, in case regular representatives cannot attend.

Moved by Dr. McInnis, seconded by Dr. Bush, that the recommendations of the Nova Scotia Association be laid over to be dealt with under the head of motions.—Carried.

Manitoba, Nova Scotia, Prince Edward Island, Alberta, Ontario and Saskatchewan representatives all reported that their respective associations had accepted the proposal to reduce the provincial representatives from two to one.

New Brunswick reported their new law, which showed a somewhat peculiar condition in that province, and Dr. Magee asked the Council to express itself upon the subject.

Dr. W. D. Cowan submitted the report of the Secretary-Treasurer as follows:

*To the President and Members of the Dominion Dental College:*

Gentlemen,—In making this my first report to you as Secretary-Treasurer, I must confess at the outset that I have found it absolutely impossible to carry out all of the instructions contained in the minutes of your last meeting. There were also a number of omissions in your legislation which it was found necessary to provide for. This, I take it, was inevitable in initial legislation, but it left me, in several instance, with responsibilities which I may not have met to your entire satisfaction.

The first omission which became apparent was in discovering that no provision whatever had been made for graduates of Canadian schools, 1905. These could not be placed in either classes C or D, because they had not graduated prior to January 1st, 1905, and they were no longer students of dentistry, so they could not be placed in Classes A or B. When inquiries, followed by applications, came in from these men, I referred the question to the President, and he ruled that they should have

the privilege of applying either under Class D for partial examination, paying \$100, or under Class B, paying \$50. Those who took advantage of his ruling have been treated by me the same as if they came under our Constitution.

In one other particular our legislation did not cover our application. It is provided that those who apply under Classes C or D shall have spent the time subsequent to their graduation in practice in Canada, and shall furnish proof of having been in regular, legal-ethical practice. In the case of Dr. Coram, he graduated in Toronto, and then left to attend college in a foreign country. I assumed that in such a case the certificate of regular ethical practice should be dispensed with, but your legislation gave me no authority to do so.

The question, too, has been raised by a Manitoba student as to whether or not a provincial student who has attended a foreign college and has subsequently graduated in his province on matriculation, had, before the coming into force of our laws, would have the right to come up for examination. Your legislation provides that only three schools shall be recognized, and it does not make any provision for those students who were matriculants in those provinces which have no college prior to January 1st, 1905. As several of these students are likely to apply for examination next year, I would ask you to define your position on the subject.

Your legislation provided that all applications for examination should be in my hands thirty days before the examination. This I found it impossible to carry out unless I was to make an entire farce of our first examination, which would have meant disaster. The students in the Royal Canadian Dental School had not evidently understood when application had to be made, and when the time limit had arrived I had received only a half dozen applications. Learning from Dr. Webster that many yet desired to apply, I extended the time, and, contrary to your instructions, received applications until five days before the examination. This made it difficult to make as complete arrangements as I would have liked, but I felt it was advisable to make our first examination as popular as possible, and this is the only excuse I have to offer.

Prior to this, however, by several letters from Ontario, I learned that there was a danger of our entire examination falling flat unless provision was made for students taking examination in the subjects in which they had passed at college, as they passed them. This question I referred to both President and Vice-President, and both concurring in the idea that the students should have this privilege, it was granted. The question of fees having come up, this was also referred to the President and Vice-President. The former advised collecting in the proportion that the number of subjects taken bore to the total

fee. The Vice-President advised that "there should be no question as to when the fee should be paid." I followed the President's advice and collected accordingly. As this entire procedure is beyond any of your legislation, it will have to be dealt with somehow.

If we are to allow of partial examination there should be a separate practical examination in Orthodontia. I was asked at the last moment to advise whether or not Orthodontia was to be classed under Operative or Prosthetic Dentistry. Not having time to consult the President, I instructed to place it in the Prosthetic department. Immediately following this came an application for examination in Orthodontia, but not in either Prosthetic or Operative Dentistry. This will show the necessity of making an entirely separate subject of Orthodontia. Either that of dispensing with the paper on Orthodontia.

There has been some confusion owing to the grouping of subjects. For instance, on one paper, which combined three papers, a candidate wrote that he did not know much about one of the three subjects, but his paper covering the three he had to write on all three and got high percentages.

I think probably the subjects assigned to Class D have not been as carefully thought out as they might be.

The fact that I extended time for the reception of applications has been responsible for one very aggravating loss. Dr. Grady, of Winnipeg, has not yet paid his fee. All the correspondence will be laid before you.

I granted examinations in Toronto, Halifax, and Winnipeg. I thought it well to acquaint the Maritime Provinces with our system so as to give them a chance to make suggestions. When the Winnipeg examination was granted I fully expected four to write there. One of the four wrote in Toronto, another it was found at the last moment could not comply with the law, so there were just two wrote.

Dr. Smith, of Winnipeg, applied for a certificate, Class C. Refused. Correspondence will explain why.

The certificates of provincial standing will require remodeling. As they stand it is impossible to deal with Class C from the Province of Ontario. Prince Edward Island seems to be in a similar fix. As I considered these certificates the very foundation upon which the Dominion Dental Council certificate should be issued for Class C, I adhered rigidly to the Constitution which you provided, with the result that there has been very aggravating delays. Only two certificates have been issued under Class C.

I wish to draw your attention to the letters of Drs. Juvet and Bothwell on the matter of the conduct of the examinations.

The subject of holding supplemental examinations for those

condidates who fail only in one or two subjects might engage your attention.

There are a number of inquiries before me now for information re certificate class C. I think these will result in a substantial increase in the number of these.

During the year I have opened up a complete set of books which are here for your inspection. There is one, however, that of applications received and how disposed of, which I thought advisable to leave until you had fully dealt with the question of partial examinations, as this book will depend for its nature upon your decisions.

I have had some inquiries from Quebec for certificates. In all cases I answered that the certificate could not be granted until Quebec became an agreeing province.

I would ask you to decide whether or not a graduate from an agreeing district, who has practised for a time immediately prior to application for the Dominion Dental Council certificate in a non-agreeing district is entitled to an examination.

I have not been able to carry out your instructions in the matter of finances during the past year. The organization, however, is now so complete that a perfect cheque system can be instituted. As you are aware, there were no funds in the treasury, and I was instructed to get printing and other organization supplies. The result was that I had to pay some \$400 personally long before any money was received. All of my payments therefore, have been made by accepting vouchers, excepting postage and petty expenses, all of which are submitted. All accounts are paid excepting an account of the Toronto Lithographic Co. for certificates not yet received, the per diem of Drs. Pearson and Woodbury, neither of whom have answered my request of a month ago, to furnish me with a statement of the days engaged. The account of Dr. Crall I submitted to the President, and now refer it to you for decision. Conceiving it to be a part of good bookkeeping to have both a book stub receipt and cheque system I ordered these. All is now practically complete, and can be put into force at once.

The balance sheet submitted shows a surplus of \$384. Enough of this, I think, should be held to pay the claims above mentioned. This will leave only some \$200 to pay the expenses of this meeting. From the inquiries I now have, however, I expect several hundred dollars more will be added to the treasury inside of a few weeks, when all expenses can be paid in full.

The organization expenses have been very heavy, but there will be comparatively little printing to do the coming year. I estimate the expense of the succeeding year should be away below the increase, judging from the inquiries, examinations commenced and other indications.

I would ask you to deal with the application of Dr. Weagant,

which is peculiar in that it does not come under any clause of our Constitution.

Respectfully submitted.

W. D. COWAN, *Secretary*.

Moved by Dr. Magee, seconded by Dr. Clark, that the Secretary-Treasurer's report be received and embodied in the minutes.—Carried.

Moved by Dr. Bush, seconded by Dr. McInnis, that Section 2 of the Constitution governing applications under Class A be amended by adding the following: "In case the applicant be a Bachelor of Arts or a Doctor of Medicine, it shall be sufficient for the applicant to show that he has been a bona-fide student of dentistry for a period of thirty months, at least fourteen months of which have been spent in attendance at a dental college

Moved by Dr. Magee, seconded by Dr. Bagnall, that we adjourn, to meet again at 14.30.—Carried.

At 14.30 o'clock the Council reassembled, all being present.

The motion made just prior to adjournment was taken up.

Moved by Dr. Cowan, seconded by Dr. Magee, in amendment, that the word "fourteen" be stricken out and "twenty-one" be substituted therefor.

Moved as an amendment to the amendment, by Dr. Bagnall, that advanced standing be given to Doctors of Medicine in that they be required to spend only fourteen months in attendance at a dental college, and that those holding the degree of Bachelor of Arts be treated similarly, excepting that they be required to spend twenty-one months in actual college attendance.

It having been pointed out that absolute unanimity was necessary in order to pass any motion of this nature, no notice having been sent to the agreeing provinces, the mover of the original motion asked leave to amend his motion, which having been granted, he submitted the following: "That Section 2 of the Constitution governing applications under Class A be amended by adding the following: 'In case the applicant be a Doctor of Medicine it shall be sufficient for the applicant to show that he has been a bona-fide student of dentistry for a period of thirty months, during which time he shall have received at least sixty-four weeks' actual instruction at a dental college.'"

The amendment to the amendment not having a seconder, and the mover and seconder of the amendment having been granted leave to withdraw, the original motion as amended was voted upon and carried unanimously.

Moved by Dr. McInnis, seconded by Dr. Bush, that the form of certificate required of applicants under Class C be amended, and that a committee consisting of Drs. Bagnall, Clarke and McInnis be appointed to draw up forms and report at the evening session.—Carried.

Moved by Dr McInnis, seconded by Dr. Bush, that the regulations governing applications under Class B be amended by striking out Section 3 and substituting the following therefor: "Section 3. Of being the holder of a valid and unforfeited certificate of license from the affiliated province in which he resides," and by adding to Section 2 thereof the following: "In case the applicant be a Doctor of Medicine it shall be sufficient for the applicant to show that he has been a bona-fide student of dentistry for a period of thirty months, during which time he shall have received at least sixty-four weeks' actual instruction at a dental college.—Carried.

Moved by Dr. McInnis, seconded by Dr. Bush, that the defining clause for Class D be amended by adding after the word "agreement" the following words, "and those who graduated from Canadian colleges during the year 1905." The clause would then read, "Clause D. All those who on the first of January, 1905, have not been in regular practice ten years, but who were on that date holders of valid and unforfeited certificates of license in any of the provinces or North-West Territories entering into the agreement, and those who graduated from Canadian colleges during 1905, shall, upon making application to the Dominion Dental Council, present the following evidence in the form required."

Moved by Dr. McInnis, seconded by Dr. Bush, that the debate be now adourned.—Carried.

Dr. McInnis gave notice that he would, at the next meeting of the Dominion Dental Council, introduce a resolution to read as follows:

Resolved, That in the opinion of this Council it is expedient to grant certain exemptions to applicants for the Dominion Dental Council certificate of qualification under classes A and B who are holders of the degree of B.A. or B.S., therefore, Section 2 of the regulations for classes A and B are hereby amended by adding the following: "In case the applicant be a B.A. or a B.S. it shall be sufficient for him to show that he has been a bona-fide student of dentistry for a period of thirty months, during which time he shall have spent eighteen months in regular attendance at a dental college."

Moved by Dr. McInnis, seconded by Dr. Clarke, that we do now adjourn, to meet again at 19.30 o'clock.—Carried.

Upon reassembling, Drs. McInnis and Bush asked leave to withdraw the motion before the Council and to substitute the following: "That there be added to Section 5 of Class D the following: 'All those who were on the first day of January, 1905,, bona-fide registered students in any of the agreeing provinces, and who during the year 1905 received their license to practice from that province, shall be required to pass the exam-

ination provided for Class D and otherwise to qualify under that section."

This having been granted, the substitution motion was voted upon and carried.

The committee appointed to draw up forms for certificate of provincial standing reported as follows: "We recommend that the following forms be adopted to be sent by the Secretary of the Dominion Dental Council to two reputable dentists residing in the vicinity of the applicant whose names have been furnished him by the Secretary or Registrar of the Province.

Dr. ....

We have been referred to you as one qualified to give us reliable information respecting Dr. ...., an applicant for the Dominion Dental Council Certificate of Qualification.

Will you be good enough to fill in your answer to the following questions and return the same to the Secretary of the Dominion Dental Council in enclosed envelope, to be put before the Dominion Dental Council:

Do you know the applicant personally?

How long have you known him?

In your opinion, has he been, during the period of your knowledge of him, conducting his practice ethically?

Does he advertise?

If so, be good enough to enclose a copy of his advertisement and to give the date of its appearance if possible.

Do you consider him a suitable person to receive the Certificate of Qualification of the Dominion Dental College?

In your opinion, is he likely to abide by the code of ethics of the Dominion Dental College?

Is he a man of good moral character?

Has he ever been convicted of any malpractice?

If so, when?

Has he ever been convicted of practising illegally? If so, when and where?

General remarks:

This information is for the use of the Dominion Dental Council, and will be treated confidentially.

These blanks to be filled out by two reputable dentists residing in the vicinity of the applicant.

And we recommend further that the two following forms of certificates of provincial standing be adopted for classes C and D:

DOMINION DENTAL COUNCIL OF CANADA.

*To Whom it may Concern:*

This certifies that the records of ..... of the Province of ..... show that ..... of the ..... of ..... Province of ..... was on the .....

day of ..... I.... duly registered as a Dentist and authority given him to practice Dentistry in the Province of .....

That to my knowledge no complaints have been made that he has been unethical in his methods of conducting his practice.

Witness my hand and the seal of.....  
at the city of ..... in the Province of  
..... this .... day of ..... 19.....

This certificate to be made by the Secretary or Registrar, as the case may be, of the Dental corporate body of the Province.

#### DOMINION DENTAL COUNCIL OF CANADA.

##### *To Whom it may Concern:*

This certifies that I have been personally acquainted with Dr. .... of the ..... of ..... Province of ..... for ..... years. That to my personal knowledge he has been constantly engaged in the practice of Dentistry at the ..... in the Province of ..... since about the month of ..... and that he is so engaged at this date.

Dated at .....

the ..... day of ..... 19..

Signed.....

This certificate to be made by one personally acquainted with the facts and preferably by a magistrate or other official.

Moved by Dr. McInnis, seconded by Dr. Doyle, that the report of the committee be adopted.—Carried.

Moved by Dr. Magee, seconded by Dr Godsoe, that as there are two standards of preliminary qualification laid down in the New Brunswick Dental Act, and as the Dominion Dental Council recognizes but one, that being university matriculation or its equivalent, in order that licentiates of dentistry in New Brunswick may receive the benefit conferred on holders of the Dominion Dental Council certificate, the Dominion Dental Council urges that legislation be secured by the New Brunswick Dental Society making the preliminary qualification of students in dentistry in New Brunswick university matriculation or its equivalent.

A vote being taken, the motion was declared carried, Dr. McInnis voting nay.

Moved by Dr. McInnis, seconded by Dr. Bush, that the list of subjects for examination under Clauses A and B be amended by altering groups 3, 5, 7 to read as follows:

3. Materia-medica and anaesthetics.
5. Pathology and therapeutics.
7. Physiology, histology and bacteriology.

—Carried.



Moved by Dr. McInnis, seconded by Dr. Bush, that the following be added to the clause dealing with Professional Examinations, page 31, Constitution: "Applicants under Classes A and B may take examination in any of the last five papers upon production of proof that the applicant has been a bona-fide student fulfilling the regulations as far as possible for a period of twenty months. The fee for such partial examination shall be five dollars per paper."—Carried.

Moved by Dr. McInnis, seconded by Dr. Bush, that the regulations governing the conduct of examinations be added to as follows: "In case any applicant under Classes A, B or D fail to make the required percentages on any paper or papers not exceeding two he shall, upon demand, be given a supplemental examination within three months; the fee for such supplemental examination to be \$10 for each paper; if such paper be set at other time than the date of regular examination. In case the examination be taken at the time of the regular examination, then the fee for such supplemental shall be five dollars. This regulation to apply only for failure upon final examination.

In case an applicant fail entirely to pass the examination under Class D one-half of the fee shall be refunded. These amendments shall be taken as if enacted November 16th, 1905.—Carried.

Moved by Dr. McInnis, seconded by Dr. Bush, that the pass marks on written examinations be amended to read:

Minimum pass marks on any paper..... 40 per cent.

Average pass marks ..... 60 per cent.

—Lost.

Moved by Dr. McInnis, seconded by Dr. Cowan, That the petition of Dr. A. H. Weagant be granted and that he be given his Certificate of Qualification, provided he shows he has fulfilled all of the requirements in so far as his health permitted.—Carried.

Doyle—Strong. That we do now adjourn to meet again tomorrow at 10 o'clock.—Carried.

Council called to order at 10 o'clock.—All present.

Dr. Magee gave notice that at the next meeting of the Dominion Dental College, he would move to have the fee for certificate under Class C, reduced from one hundred to fifty dollars.

Moved by Dr. Thomson, seconded by Dr. Godsoe, that the words "Presiding Examiner" and "Those respective," be struck out of the second clause, page 28 of the constitution, and that the word "that" be inserted in lieu of the words "these respected."—Carried.

Moved by Dr. Thomson, seconded by Dr. Magee, that the Secretary correspond with the General Medical Council of Great Britain and incorporated Dental bodies in foreign countries, for

the purpose of securing recognition for the Dominion Dental College Certificate of Qualification in those countries.—Carried.

Moved by Dr. Thomson, seconded by Dr. Godsoe, that the Council heartily endorses the action of the Nova Scotia and Prince Edward Island Dental Association in applying for legislation requiring students of preliminary and professional education equivalent to these of the Dominion Dental Council, and expresses the hope that the governments of these provinces may see their way clear to pass such legislation.

Moved by G. K. Thomson, seconded by Dr. Godsoe, that the notwithstanding anything to the contrary contained in the Dominion Dental Council regulations graduates of foreign dental colleges, which in the opinion of the Dominion Dental Council provide teaching equivalent in quality and time, to Canadian schools, who have been bona-fide students of dentistry for not less than forty-two months, have complied with the matriculation requirements of the Dominion Dental Council, of good moral character, and recommended by the Dental Boards of Provinces in which they are registered as students shall be entitled to examination by the Dominion Dental Council.

Moved in amendment by Dr. McInnis, seconded by Dr. Clark, "That this council reaffirm its attitude upon the national standard, and for the present refuses to recognize diplomas from foreign colleges as sufficient to admit the holder to examination for Dominion Dental Council certificate."—Carried.

The Provinces of Nova Scotia and New Brunswick voted Nay upon the above amendment.

The chair ruled that the original motion should be put to the Council by Provinces which, being done, the vote resulted as follows:—

Prince Edward Island, .....	Nay.
Nova Scotia, .....	Yea.
New Brunswick, .....	Yea.
Ontario .....	Nay.
Manitoba, .....	Nay.
Saskatchewan, .....	Nay.
Alberta, .....	Nay.

5—2 against. Lost.

Dr. Thomson then gave notice that at the next meeting of the Dominion Dental Council he would move the resolution contained in his motion just defeated.

The correspondence relative to the examination of Drs. Junet and Bothwell was laid before the Council.

Moved by Dr. Bush, seconded by Dr. McInnis, That inasmuch as regulations in force for examinations in 1906 brought about a complication which evidently worked against the candidate Junet, therefore, be it resolved that a supplemental exami-

nation be given him in Pathology and that if he make a pass mark upon it he be given his Dominion Dental Council certificate and further that no fee be exacted for such Examination.—Carried.

McInnis—Bush, That the Secretary be paid an honorarium of \$300 per annum.—Carried.

Moved by Dr. McInnis, seconded by Dr. Thomson, That the Secretary be instructed to write Drs. Wetmore and Cogswell asking them to set a more exhaustive paper in their respective subjects in future.—Carried.

Moved by Dr. Clark, seconded by Dr. Smallwood, That the Examiners of last year be reappointed.—Carried.

Moved by Dr. Smallwood, seconded by Dr. Strong, That the Secretary be instructed to have the Constitution as amended this session printed, and that he prepare and have printed a pamphlet setting forth the requirements for application for the Dominion Dental Council Certificate.—Carried.

The election of officers having been called, Dr. Taylor was appointed Scrutineer and announced results as follows:—

First ballot: President—Dr. Abbot, 10, elected; Dr. McInnis, 1; Dr. Woodbury, 1.

Second ballot: Vice-President—Dr. McInnis, 9, elected; Dr. Woodbury, 2; Dr. Godsoe, 1.

Third ballot: Secretary-Treasurer—Dr. Cowan, 11, elected; Dr. Clark, 1.

Moved by Dr. Thomson, seconded by Dr. Godsoe, That the clause of the Constitution entitled "Membership" be amended by striking out the word "two" and inserting "one" in lieu thereof. This gives to each Province only one representative hereafter.

Moved by Dr. Magee, seconded by Dr. Bagnall, That the words "and place" be added to the clause which provides that the Executive Committee have power to fix the date and place of next meeting.—Carried.

Moved by Dr. Bagnall, seconded by Dr. Clark, That we adjourn to meet at 17 o'clock.—Carried.

Upon reassembling, the Council passed votes of thanks to McGill College, to Dr. F. A. Stevenson, the Montreal Dental Society and the Press, after which the minutes were read and found correct.

The Council then adjourned.

## PRESIDENT'S ADDRESS.

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BY EUDORE DUBEAU, L.D.S., MONTREAL.

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Read before the Canadian Dental Association, held in Montreal, Sept. 5th to 8th, 1906.

My first duty in opening this 3rd biennial meeting of the Canadian Dental Association is to thank you for the honor you have bestowed upon me in electing me to the presidency. Considering the fact that I belong to the French-Canadian element, which is in minority in this Association, it is a still greater honor, and I assure you that I appreciate it to its full extent.

Our Association is very young, only four years' old, but it has done a lot of good work in that short time, and I am proud of having been one who presided at its birth in this city where we had the first meeting.

I said that it has done much. I prove it. When we met the first time, two committees were appointed, one to enquire into the possibility of establishing a Dominion Dental Council, which idea was first suggested by our confrere, Dr. McInnis, of Brandon.

The second committee appointed was to interview the Militia Department concerning the nomination of dental surgeons in the army.

What has been the result? Absolutely satisfactory. We have to-day a Dominion Dental Council which includes seven provinces, and who has already held its first examinations last June. It is true that Quebec and British Columbia are still out, but it is a question of evolution of ideas, and I am sure we will see in a short future, licenses issued giving the right to practice all over the Dominion of Canada. Now, as to dentists in the army. Although given little hope at first, the committee has succeeded in getting eighteen dentists appointed, and Dr. Bower, to whom we owe the greatest part of this result, will probably tell you to-night that the Minister of Militia has been so satisfied with the work done by the dental surgeons that he contemplates increasing their number.

Was I not right in saying at the beginning that we had a right to be proud of our Association?

Last year our Association had the honor of being invited by the British Dental Association to attend their 25th meeting, in Southport. Six members of this Association have attended: Dr. J. B. Willmott, of Toronto; Drs. A. A. Lantier, L. N. Lemieux, A. Lemieux, of Quebec; Dr. E. Lemieux, of Montreal, and myself. The reception that we have received from our British confreres could not have been surpassed, and I have invited them to attend our meeting this year. The invitation,

which was received with pleasure, was fully discussed, but it was found that the notice was too short, but it is expected that they will accept it for our next meeting, and as conclusion of this address, I propose that the committee which will be elected for the next two years be instructed to send another invitation to the British Dental Association for our meeting of 1908, and also to open negotiations for the establishment of a dental association comprising the dentists of the whole British Empire, on the same basis as the British Medical Association, which met in Toronto recently.

At the closing of the meeting, Dr. L. N. Lemieux proposed, seconded by Dr. A. Lantier, that the executive of the C. D. A. be instructed to send an invitation to the B. D. A. and open negotiations, as mentioned in President's address.—Adopted unanimously.

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### SUGGESTIONS.

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BY J. E. McDONALD, D.D.S., SUMMERSIDE, P.E.I.

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Read before P.E.I. Dental Society at Charlottetown, August 1st, 1906.

Mr. President and Gentlemen:—The title of this paper will most certainly not suggest any particular line of thought in the field of practical dentistry, but perhaps a few of the hints might prove helpful to some of you when in a tight place—when the faintest gleams of light broadens the field of vision. Before proceeding further with the subject of my paper, allow me to make a few remarks on some of the vital needs of a Dental Society. I refer particularly to the manner in which interest can be kept alive and the Society made helpful and interesting. Most of us, if not all of us, have come to look upon the time spent at our annual meetings as so much time wasted. Of what interest is it to the busy dentist to come here, vote Dr. So-and-So into office; say good-day; grab up our hats and hand-bags and hike it for home.

The election of officers is all right, because it is fundamentally necessary, but there are other matters of vastly more importance. We want papers, we want clinics, and there is no earthly reason why we cannot have them both. I know some of you will say (as some of you have already said), "I can't write a paper. I don't know anything that would interest anyone. I can't give a clinic; I have nothing new to show that everybody does not already know." Is that so? Who knows you have nothing interesting to write about? Has your pathway through life been so strewn

with roses that there is not to be found one thorn in the whole tangled mass of beauty? Have you never made a mistake in your whole professional life? Have you never worried over how you were going to correct that mistake? If you have never had any of these experiences then you don't need to become a member of this or of any other dental association. But if you have? then let us hear from you. Tell us your troubles; the telling will lighten the load. If you can't think of a title, allow me to suggest, "Some doings and how they undone me."

Burst into my mind, at the present moment, with an indelible brand, two or three serious blunders made during a short professional life loom up painfully distinct and yet not one of you knows what these mistakes were. Now, how is it with you, brother? Who is he who cannot show us his way of doing something? right or wrong. Show it. If wrong, you will probably be righted; if right, your brethren will be bettered and your profession honored.

Show us your way of inserting a gold filling in a proximal cavity. Tell us how you would fill up a broken corner with gold. Show us your method of filling approximal cavities in bicuspid teeth with amalgam. (Here is a great opportunity, we all find it so hard to make this kind of work permanent. When I say *we* I mean *I*.) Show us how *you* would fill a buccal cavity extending well under the gum in a lower molar: fill it with anything you like, only do it so it will last. Who knows how to make an inlay? either gold or porcelain. One of our Summerside brethren does this kind of work. I hope we shall hear from him at our next meeting. Show us these things or show us some of them, now. Give us a demonstration of filling with Asches' artificial enamel. Talk to us about plate-making, plate mending, bridge building, crowning, treating, regulating, anything, anything, anything.

Here we have subjects for clinics in abundance, and I trust that, in future, instead of meeting once a year we shall be obliged to meet three or four times a year, so we can get through with our difficulties and assist each other by our comradeship and counsel, and that each will give the society something out of the storehouse of his knowledge and experience.

In an association of nineteen working, living, breathing, up-to-date dentists there should be no shortage of material. But, to digress, I started this paper by mentioning two words: Hints and Suggestions. You are no doubt already wondering where they come in. The following may prove helpful to some of you, as they undoubtedly have proven to me. First, on opening up a pulp-chamber in which there is a putrescent pulp, giving out a particularly offensive odor, dip your brooch in oil of turpentine and insert in canal, the odor will change most agreeably, both to yourself and your patient, almost instantly, or apply a small

pledget of cotton saturated with the oil. Second, in large occlusal, buccal or proximal cavities in molars or bicuspid break down the overhanging walls with chisel and mallet. This will save you lots of time and be almost painless to your patient. I use a 4-oz. lead mallet. Third, Instead of using napkins or rubber-dam in filling or crowning the back teeth, try Red Cross absorbent rolls. If the tooth is in the upper jaw, dam up the salivary gland immediately in front of the ear, known as the parotid gland with a roll about one and a half inches long; have your patient breathe as much as possible through the nose. If a lower tooth is to be operated upon, in addition to stopping the flow from this gland, lay a roll by the side of the tongue, sufficiently long to cover the sub-lingual and sub-manillary glands. Ask your patient to keep the roll pressed tightly against the teeth with the tongue, or if you have an absorbent roll clamp so much the better: this ought to keep your cavities dry for any operation not exceeding half an hour's duration. Fourth, When you find a flap of gum tissue, grown over and into an approximal cavity, try ligaturing it to the adjacent tooth with waxed silk floss. This will cut off the circulation by strangulation and the gum flap may be removed without pain, using the lancet and applying adrenalin or adnephryn to arrest hemorrhage. Fifth, In taking an impression where retching is bound to supervene, making the operation almost impossible. I have succeeded by swabbing the palate with Wickoff's Obtudent. Try it and see. Just here I would like to ask the members present, What is your method of securing a correct bite after the impression has been taken? Sixth, Dr. Haskell tells us that the six anterior teeth should never be allowed to touch each other when the teeth are in proper occlusion, the weight of the bite being thrown on the bicuspid and first molars. Again, the same authority tells us, If your plate causes a sore spot in the mouth, whiting mixed to a paste and applied to the spot with the curved end of your cement spatula will mark on your plate the exact location of the irritating surface on its removal from the mouth. These, gentlemen, are some of my experiences learned from personal, practical necessity. Others have been adopted by me from the experiences of practical men in the dental profession. I trust that some of you will find in this paper something which will be materially helpful to you in the more intelligent doing of your work, and if so. I shall deem myself well repaid for the effort I have made to entertain you. If you find anything in this paper deserving of criticism or discussion, I shall consider it a further compliment if you will point out its defects and make clearer still the points I have enlarged on. Thanking you kindly for the courteous attention you have given me, I will close my paper with a promise that at some future date I shall be pleased to furnish this society with a more interesting one.

## Selections

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### THE PROFESSIONAL SPIRIT.

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BY PROF. GEO. E. VINCENT, UNIVERSITY OF CHICAGO.

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(Abstract of an address delivered before the graduating class of the Chicago College of Dental Surgery, May, 1906.)

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The sage advice of a commencement speaker is no longer taken in the serious vein of the good old days, but may be regarded either as the revenge which middle-age visits upon youth, or as a final ordeal in the testing of those about to receive their diplomas.

We have ceased to accept Spencer's view of society as a vast unity of co-operating parts, but have come to look at it rather as a congeries of conflicting groups, each seeking to strengthen and aggrandize itself in rivalry with the rest. The struggle for existence is no longer regarded as primarily a conflict between individuals, but as a complication between groups. Laborers seek to avoid rivalry with each other in order as a band to wage more successful warfare against capital. This group life of persons is full of interesting and significant suggestion.

By the very fact of living together and working side by side the members of a group are unconsciously moulded to a type. Man is essentially imitative; he appropriates constantly the language, manners, dexterities, knowledge, tastes and ideals of the common life. Thus those who read the same papers, attend the same schools, and are in frequent contact are inevitably assimilated. We "place" a stranger by discovering his groupings, geographical, occupational, political, ecclesiastical, etc., etc. We assume in ordinary life and in our common-sense judgments that a person is largely, if not wholly, what his group makes him. In this way a typical, average, or commonplace person is created in each group, is deposited, so to say, in each individual. Professor James asserts that we have as many of these social selves as there are groups to which we belong. In these days of social complexity each person reflects in his individual life the interlacing and overlapping of these group selves. Many a man finds himself embarrassed by the conflicts which go on in him between inharmonious social selves which he may be harboring.

But not only are the members of a group unconsciously moulded to a type; they are often coerced into conformity when they vary too widely for the standards which the group enforces.



To vary a little from the average is to be interesting, to vary further is to be progressively "queer," "eccentric," "a crank," "a fanatic," "a dangerous character," "a traitor," "a criminal," or "a madman." Such are the epithets of coercion. The group has many weapons besides calling names. Ridicule brings most recalcitrants to time; ostracism causes others to weaken; financial loss makes the more hardy knuckle under; while imprisonment or death suppresses the resolutely rebellious. The very life of the group depends upon the preservation of traditions, and in proportion to the dangers which menace a group will its coercion be exercised. Only individuals of great strength for good or ill have the courage to withstand this social pressure. So long as human nature remains much what it is the martyr market will not be oversupplied.

Nevertheless a group's standards and ideals cannot remain inflexible. These have been developed to serve the life purposes of the group in its competition with other groups. As the condition of the struggle changes, the ideals and standards must be gradually modified. Leaders are they who recognize new conditions and new problems, propose readjustments, and have the courage, skill and persistence to carry their points against the inevitable reluctance, inertia and prejudice of the commonplace, conventional, tradition-worshipping mass of their fellows. Other things being equal, that group is efficient which on the one hand enforces its standards, and commands the loyalty of its members without wholly suppressing those variants who represent possibilities of readjustment and progressive success.

All this, although it may seem remotely academic, has immediate bearing upon the meaning of this hour. These young men have been living a common life, building up a group-self, acquiring the professional spirit. In contact with their instructors and each other they have by imitative appropriation begun at least the creation of a type within themselves. In knowledge, skill and point of view they have during these years—and largely in an unconscious way—been moulded to a kind of likeness so far as their vocational life is concerned. More and more they have become aware of this likemindedness, until to-day as they are formally sent forth from their course of training, they feel it vividly.

This professional spirit, this sense of a common life with its standards and ideals is a valuable force both for society and for the individual. It demands loyalty from every member, and in return it offers him the strength of comradeship which most men need. Too many of us are supported in our moral life by pressure from without rather than from within. Deplore it how we may, the fact remains. In union there is not only physical strength, but a vastly more important spiritual aid. These men have taken up a life which will force them by social pressure to

maintain standards. Each by his loyalty to these ideals not only preserves his profession but strengthens himself. He who falls short or plays the traitor will not only be false to himself but will in so far drag down his group. The professional spirit cannot brook deceit or unfair methods. The individual tempted to take advantage or to break the "rules of the game" will be saved by bringing vividly to mind the objections of "the professional spirit."

But the professional spirit also recognizes the need of leaders, innovators, those who dare to say that certain traditions are outgrown, and should be modified to meet new conditions. The profession demands men who have the courage to differ and to defy, for the sake of a larger and a better professional ideal. Let us hope that among all true loyal men there are many who will make contributions to the science, teachings, and ethics of their profession despite the ridicule, abuse and persecution which are sure to be the lot of those who propose vital changes in group traditions and conventions.

Congratulations to the class which to-day enters fully into this group life, this professional spirit. May their ideals be those of loyalty to what is until they or others find a better way; may they think first of their common aims and ideals, second of personal gain. God speed the class of 1906.—*The Burr*.

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## THE CONDUCT OF A PRACTICE.

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BY DR. J. E. NYMAN.

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*Ladies and Gentlemen*,—I appear before you very much embarrassed. To begin with, I have no written paper prepared and must talk extemporaneously. As Robert Ingersoll once said, there never was a good extemporaneous speech which the orator had not had a month to prepare it in. I have not had this month to prepare my address in, and although I had jotted down some thoughts to give you to-night, in some mysterious way I lost the notes that I had prepared; but, the saddest of all is, I am the victim of Western hospitality. (Laughter.)

But I think dentists as a class, really are given too much to the consideration of technical questions in their profession, and neglect some of the broad, fundamental principles which should actuate them in the conduct of their practice.

Now, of course, all of us want to occupy as high a position in the estimation of the public as we possibly can. That I hope is the laudable ambition of every man in this profession. Many of us are distressed at the esteem accorded our great profession, as

compared with the medical profession, and in a way, we clamor for more recognition. I think this clamor for recognition in a measure jeopardizes the appreciation of the public. The public at large is a pretty rational body, and is apt to estimate things justly. They will usually bestow upon an individual, or an aggregation of individuals, the esteem that he or they merit. In other words, you are very much more apt to receive the reward and esteem which you command, rather than that which you demand.

Now, to begin with, from the very necessity of things, our profession never will occupy quite the same exalted position in the opinion of the people at large, that do the professions of medicine and the law. For this reason: That the layman regards the physician as the man who stands between him and suffering, disfigurement, disability and even death; he is bound to hold that man in high esteem. He regards the lawyer as the man who stands between him and the loss of property, the loss of liberty, of avocation, and even of life itself. He is bound to hold such an individual in high esteem. Furthermore, there is such an element of uncertainty in the practice of both medicine and the law: So many failures, so to speak, of both prognosis and diagnosis in medicine, and of legal opinions; so many miscarriages of justice, so that the few who are eminently successful are hailed as saviors by their clients. Whereas, in the practice of dentistry, we have so perfected our art that there is a minimum of failure, and to-day the successful practitioner seldom fails to do that which he undertakes to accomplish, and the expectation that there will always be success following dental operations has depreciated the esteem and regard the public would, otherwise, hold for us and our operations.

There are many factors which enter into the success or failure of a dental practice, which lie entirely apart from the ability to put in perfectly adapted gold fillings, from the ability to save pulps from disease or successfully remove them and fill root canals, from the ability to extract teeth, or put on crowns, bridges or insert porcelain inlays, and construct properly fitting dentures.

Why is it that you find some men, whom we know to be of rather inferior ability, enjoying lucrative practices, standing well in the community and able to take their ease at will and have luxuries which you, yourself, perhaps do not enjoy, or which some one else whom you know of who far exceeds this man in ability both theoretical and practical, is unable to attain. What is it? An intangible something: It is the personality of the man; the character of the man; it is the influence both conscious and unconscious, which emanates from his egoism and which makes an impression upon those with whom he is brought in contact.

Among those factors, first of all, we put ability—the conscious factor, so to speak. If a man has ability, of course he will demonstrate that in the practical part of his profession. As to

honesty, he will practice that if he is wise, at all. For, let me tell you, it matters not how tolerant an individual may be in regard to another individual's dealings with a committee, a board of aldermen, a legislative body or a corporation, he is insistent on honesty when it comes to personal dealings with himself. He is absolutely implacable, and unforgetful, if he finds it has not been accorded him. Furthermore, the dishonest professional man, is usually classed by the laymen as a man of little ability, as well.

Last night we had a very interesting paper on the Conservation of Energy. I would like to talk to you a little bit upon the conservation of time, because, of course, your time is really your main capital in your business and life work. A great deal of time is wasted in many men's offices on account of the basis on which they reckon their fees. They work for so much an operation, and the patient comes to regard their time as of little value, but the operation of more value according to the apparent magnitude of the work, and the amount of material used. Now, I think it is the part of wisdom to impress upon every patient the fact that you charge for the time that you expend in your operation; that the apparent magnitude of the work, and the amount of material used is a matter of little or no consequence at all; hence, I think it is wise to institute a system of fees based on a charge of so much per hour.

Furthermore, I think that every appointment that is made with an individual should be made a matter of record with that individual and he or she should be given an appointment card. It is perfectly astounding to note the contrary opinions which sometimes obtain with practitioner and patient as to just what hour and what day that patient had an appointment. Some rattle-brained patient will insist that you said "Wednesday," when in your own mind you are perfectly satisfied you said "Monday;" that you said "2 o'clock," when the fact is, you set the hour at "9.30 o'clock," in the morning. I would advise you on these appointment cards to have some such notice as this: "The hour specified is reserved for the patient; if the appointment is not kept a charge will be made for it, unless due notice is given. If notice is given of inability to keep the appointment, every effort will be made to reassign the time; if this cannot be done, the time will still be charged to the patient." That precaution will prevent the patient from telephoning to you at 5 minutes to 2 that they simply cannot keep their 2 o'clock appointment, and you may come to find out, perhaps later on, that it is because they had a 1 o'clock appointment with some dressmaker, and after waiting there until 5 minutes to 2 the dressmaker told them she would see them in 10 minutes, so they feel that it absolutely excuses them to telephone you upon such short notice

that they cannot keep the appointment, and thus make you lose an hour.

So I have insisted upon that in my practice, and so have many other dentists, the effect being that we are very seldom confronted with such a situation, as the patient usually keeps the appointment or else gives ample notice of inability to keep it.

Frequently you are asked for estimates as to the probable fee charged for a given operation. It has been almost my invariable practice for some time past to refuse to give any estimate at all, or when I do, I tell the patient it is merely an opinion and that I know very little more about what the proper charge for the operation will be than they do themselves. But I tell them, if they regard me as a conscientious, capable operator, and that I can and will perform the operation with judgment, honesty and skill, as it should be performed, they must also give me credit for being an honest commercial man who will charge only such a fee as is commensurate with the service rendered and which they can afford to pay. Tell them that never yet have you forced a patient to pay a bill which they really could not afford to pay, and which was in unjust proportion to their means. And we should be honest with patients in that respect; we should show charity toward people who are deserving of charity, and you will not lose anything by it.

Many are very careless in the records they keep. Occasionally you do come in contact with a dishonest patient and may be obliged to sue to recover your fee, and then you find out that your record is kept in such a way you have absolutely no legal basis upon which to base a judgment against the debtor. For that matter, you should keep all your records very carefully, and I would suggest that you keep a large appointment book, and on that appointment book you make a record in some sort of cipher, or use abbreviations, if you please, as to just what was done for that particular individual; then I suggest that you keep a card system of record, and transfer to those cards the record from your appointment book, then you have some definite legal basis upon which to institute suit upon an account, if it should become necessary.

The card system is of great advantage in this; that if you have occasion to discuss an account with a patient, you merely remove one card, and the patient sees only that one, and has no opportunity to run over the next page of the ledger and see that you have entered a charge against some individual of \$12, and you have charged him or her \$18 for the same thing, thus furnishing good ground for another dispute. Then the card system is so easy to run over to find accounts that are open and collectible, and those that are closed and so much more convenient than the old ledger style of book-keeping.

You can very quickly separate accounts of persons to whom

statements should be sent from those to whom you have sent statements and which have not yet been remitted for.

I think it is the duty of every man to establish a line of credit with the dealers, no matter if he has a million dollars in the bank and is able to discount all his bills. I think it is the duty of every man to use this credit, whether he really needs it or not, because none of us can tell at what moment something may happen to reduce our cash resources to a point where we are obliged to obtain credit, and that is the poorest time in the world, gentlemen, to begin to establish credit—when you are financially crippled.

The time to do that is when you are financially well off, then when your resources are reduced to a minimum you have your credit to fall back upon. Of course you are obliged to extend credit to your patients. In order to avoid imposition in that regard, it has been my practice, when a new patient comes to me, to inquire first of all who has referred them to me. If they can give no definite name, but have come of their own volition, I then request them to give me the name of some old patient, if possible. Anyone who takes offense at a request of that kind is one whom you do not want to have for a patient, and who may prove to be disreputable or dishonest.

Sometimes the new patient will give the name of some old patient whom you know to be very reliable, and yet you cannot be certain that this new patient is worthy of credit. I had an instance of that kind in my practice some years ago, where a very prosperous-looking man appeared at my office and said he had come to me because of a certain Mr. Nichols, who was a very good friend of mine, a business man of high standing in the community. So without question I accepted this patient, did everything for him that could be done, and afterwards did my best to collect my fee, only to find out the impossibility of doing so, and that the man was absolutely dishonest. Later on I was informed that the basis of his reference to Mr. Nichols was that in a conversation he had overheard Mr. Nichols refer to me as a dentist, and Mr. Nichols repudiated the idea that he had sent the man to me, and said that if he had known he was coming to me as a patient, he would have warned me at once. So, I think it a very good policy, when a new-comer gives another patient's name as a reference, to communicate with the latter in some way and obtain the facts in a confidential way. I have avoided trouble of this kind by taking this precaution, and by communicating with the patient who has been mentioned as a reference, have ascertained that they have never recommended the new-comer at all, and would not have thought of doing so.

When there is trouble in making a collection, and someone puts you off in a casual, off-hand manner, you can quickly bring them to a realizing sense of their indebtedness to you and of the

necessity of meeting it, by asking them to give you a thirty-day note for the account. That is something a man cannot very well refuse to do, unless he disputes your claim for fees altogether. If he says: "Doctor, I am sorry, I can't attend to that now; I will attend to it as soon as I am able," then I say: "Mr. Brown, I will ask you to give me a thirty-day note, and I will discount it at the bank." Be insistent on one of the two things. There is no excuse for not giving you a note if he is unable to give you the money, and if he has an honest desire to pay the debt. It is done in business every day, and it is a good common-sense business principle to insist on it. Frequently you can bring a man to time and force him to settle an account within a reasonable time, when he would otherwise keep you chasing after it for six months or a year.

Frequently you may be confronted by a protest against the size of the account. The patient may say: "Doctor, you didn't do so very much for me; you only put in four gold fillings. A friend of mine had six gold fillings put in for \$10 less than what you have charged me for the four." The response I should make to that is this: My dear sir, I am not in the business of selling precious metals, drugs or instruments. They are merely the incidentals in practice. The fee that I have charged you has been for the ability to put your teeth in normal condition, to relieve your suffering and protect you from further suffering in the future. The material, the instruments, the drugs that I have used are not included in the bill. The fee is for professional service and that alone. Another thing: I would warn you against making an intimate friend of every fellow who happens to come into your practice. Now, I know a great many men who have a great deal of trouble with their practice. They never get the fees they should receive and they are never paid as promptly as they ought to be, merely because they have established a certain degree of free and easy familiarity with every patient that comes under their care. It is always these patients that are the first to impose on you in every way that a patient can impose on an operator, and so, while there should be a certain degree of affability displayed by the dentist, I think it should be associated with a certain form of dignity which should always be present in your relations with a patient and which will prevent them from attempting these little impositions that annoy, and that are expensive.

Now, I have talked at some length about conscious influences. In the conduct of a practice, there are many unconscious influences and I am quite disposed to think that these unconscious influences are really more potent than the conscious ones. They are more potent, because they are subtle, and because they are absolutely sincere. The story is told of a man who became a Chief Justice of England, who was a rather dissipated person in his earlier

days, although a member of a prominent family. He had every opportunity, in his profession, being a man of brilliant legal attainments, but was rapidly degenerating into a common sot and gambler. Visiting one day at a friend's house, engaged in playing a game of cards, as he sat at the table, he could look out of a window, and across an intervening space he saw through a lighted window a hand moving backward and forward, as though engaged in writing; glancing across from time to time during the whole night which he spent in gambling with his companions, till in the light of the early morning he could see that lone hand steadily moving backward and forward in that steady, monotonous way, until it got upon his nerves, so to speak, so that he finally threw down his cards, and said, "For God's sake, some one tell me who that is over there, and what he is doing?" His friend replied: "Don't you know who that is? That is Sir Walter Scott. He has assumed the obligations of the firm he was connected with, that failed, although he was in no wise legally responsible, and you will find him sitting there at his desk writing almost day and night in the effort to repay those who have lost by reason of giving credit to that firm on account of the confidence reposed in Sir Walter." This incident made such a profound impression upon this man, that he reformed, and from that moment he continued to make the most of his brilliant talents until he became the Lord Chief Justice of England—the noted Lord Kelvin. It was nothing more nor less than the unconscious influence of Sir Walter Scott, exerted in a manner unknown to him, which resulted in such benefit to another.

Now, this unconscious influence will be demonstrated in many ways. It will be demonstrated in the lettering upon your office door; in the furnishing of your reception room, the pictures and decorations on the walls of your office rooms. You had better hang but three or four good pictures there than have the whole four walls covered with mediocre ones. You had better have three or four copies of good pictures than have half a dozen mediocre real paintings on your walls. It will show in your own personal dress, even in the color of your necktie; it will be evidenced by the polish you have on your shoes, the state of your linen and your manicured finger nails. Let me tell you that these margins, so to speak, of your make-up, are just as important as are the margins of one's fingers.

Now, there is another thing that creates an unpleasant impression upon certain patients, and that is a certain vindictive style of criticism that men indulge in, sometimes, of their fellow practitioners. It does not help you in the least; it does not satisfy your patient in the least to know that a certain operation, which is an evident failure in the mouth, has been the result of some one else's careless work. You do not know the circumstances in which that operator may have been placed at the time he per-



formed that operation, or what influences may have been at work to bring about the conditions found present. So I beg of you to withhold all such criticism as that, as it is bound to react upon yourself, and will jeopardize your patient's confidence in that profession as a whole, and in you individually as a member of that profession.

Now, I do not mean by this that you should try to deceive a patient. I do not mean that if a patient comes to you for honest advice, or who is threatened with a suit by the operator who has performed this careless or unskillful operation that has resulted in failure, he should not be told the plain facts in the case, for then it is your duty to explain to the patient how he or she has been imposed on, and it is your duty to protect that patient from further imposition if you can possibly do so; but only at such times, are we justified, I think, in indulging in criticism of other operators.

Another thing I would beg you to attempt, is the control of your temper at all times. Do not let failures disturb you. Demonstrate to your patients that you have a majesty of mind, a poise of will power that makes you master of any situation that may arise in the conduct of your practice, and especially refrain from censure of any third party in the presence of a patient; because there is always a certain vulgarity about a thing like that, and a certain lack of consideration. That suggestion of vulgarity always lowers you in the estimation of a patient. Furthermore, in nine times out of ten, there is no justice in censure that is delivered in a moment of passion. You will do the object of your recriminations an injustice, which you may not appreciate at the time, but which you will see in your calmer moments, and this injustice will be clearly recognized by the patient who is not biased, and so to the suggestion of vulgarity, has also been added a suggestion of poor judgment on your part. I would like to have you remember this, that most of the oratorical blunders of the world, through all the centuries, have been those committed in moments of sudden anger.

Now, then, as to your failures, because you will have them, as well as myself, and everyone else. There probably never was a failure that did not stagger a man a little bit. There are some men who allow failures to check their careers almost altogether. There is no reason why that should be. There is a value attached to every failure, paradoxical as that may seem. There is a lesson to be gained from every failure, and that is why it is of value to you.

When a bridge or crown comes back to you when it has failed, do not tear it out in absolute disgust and throw it in the scrap heap, but lay it to one side and after a while, when you have time, in a calmer mood, carefully study that thing, and find out just where your mistake was, in that way you can insure not

making it again. Then have the courage to admit to your patient you have made a failure, when you really have made one. One of the most profitable admissions I ever made in my whole practice was when I told a certain gentleman I had made a failure in an operation, and was going to try to find out what was lacking in it, so that I should not fail again. That one man's regard has done more to build up my practice than any other influence that I can recall, and it was, I believe, because he admired, as he said, the courage and honesty that I showed in admitting that that failure was a failure, instead of trying to gloss it over and call it something else. You will lose nothing in the estimation of your patient when you frankly admit a failure is a failure, and assert that you are going to correct it and see that it does not occur again.

Last night we had another excellent paper on the subject of Keeping Up with the Profession, and my friend Dr. Hunt suggested means by which that could be done. By means of reading and studying new methods and new ideas; by reading the current magazines of the profession and the new text-books, and still further, by attendance upon Association meetings such as this. Of course it is carrying coals to Newcastle to advise all you gentlemen here to attend Dental Association meetings, because it is evident that you do so, but I wonder how many men methodically read the current literature of the profession? Some of them do not do it, I know, because the current magazines of our profession have, at least many of them, been absolutely prostituted by the supply houses. Every supply house that has the capital to do it, is conducting a dental journal—not because of any particular need or demand for it, but because it affords them an advertising medium and is considered as much a commercial factor in their business as is the shipping or the bookkeeping or the sales department. I wish there was some way by which a great national magazine could be started as official organ, perhaps, of the National Dental Association, which would stand in dentistry for what the *Journal of the American Medical Association* stands in medicine. Then you would know that all the articles you read in its pages were articles of value, and that all investigations chronicled were investigations that had been sincerely carried on, and the reports of them trustworthy. There would be a greater incentive then to peruse and study the articles in a publication of that character. I wish I might place in the hands of every one of you an address delivered by Dr. Hugh D. Patrick, of Chicago, which is a masterpiece of classical literature.

Now, then, you know the public's estimate is going to be based not alone on our ability, our honesty, our personal appearance and all that, it is going to be based also on the evidence we show of a high grade of education; on the evidence we show that

our skill is the result of long practice and of experience. They tell a story of Whistler, who painted a portrait of the wife of a wealthy man in the course of one morning's work, and charged the man a thousand dollars. He refused to pay the bill and Whistler brought suit. The attorney for the defendant, in cross-examining Whistler, inquired in a very casual way: "Mr. Whistler, how long did it take you to paint that portrait?" Mr. Whistler replied, "Just one morning." The lawyer exclaimed: "Why, have you the audacity to charge \$1,000 for one morning's work?" And in his argument to the jury he said: "Gentlemen of the jury, I appeal to you, where is the justice in such a charge as that? There isn't a man among you who would not be willing to work six months for that sum." Then Whistler sprang to his feet and exclaimed: "No, no! I do not charge that \$1,000 for one morning's work; I charge that for the experience based upon the labors of the mornings of thirty years." The forcible logic of these words was so apparent that the jury returned a verdict in Whistler's favor without leaving their seats. So it will be with us, as we show the evidence of a high grade of education, as we show evidence of experience, and of culture. Some of you may smile at that, yet I tell you there is not an individual, no matter how low he may be in the plane of human existence, but that intuitively shows deference and respect to culture and the evidence of culture. And all these things blended together give the man a fine dignity. I do not mean this ponderous, over-awing dignity that would be exhibited by the quack, but a dignity that is not without affability, but which is the blending of all these attributes of ability: Honesty, education, culture, and experience. As an eminent writer recently said: "Even to-day, as it was a century ago, the most potent factor in the successful career of a professional man is a certain fine dignity."

Now, before I close, and I am very glad for your sakes that I am at my close, let me leave just one little thought with you. You will get out of your profession just about what you put into it, and this thought that I leave with you, has been epitomized in verse:

"Life is a mirror, for king or slave;

It is just what you are and do.

Then give to the world the best that you have,

And the best will come back to you."

(Prolonged applause.)

EFFECTS OF PUMICE AND OTHER GRITS.

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But let us see what constitutes excessive use of pumice on the surface of the enamel. A bicuspid of sound enamel was screwed into a vise and a two-inch brush wheel charged with wet pumice was run against the cusp of the enamel for four hours at the rate of 2,600 revolutions per minute. At the end of this time the outlines of the cusp were still sharp and the enamel seemed to have suffered only to the extent of having received a beautiful polish. Let us now calculate how long in the course of natural brushing it would have taken this tooth to receive a similar amount of polishing. The method of procedure was as follows: The mouth was brushed in the normal way and the number of double strokes counted. These were found to be seventy-four. The length of each stroke on being measured was found to be two inches, but the spring of the bristles was found to reduce the actual passage of the movement of the brush over the teeth one-half inch at each end of the stroke, making the actual amount of bristle friction one inch for each stroke, or 148 inches for 74 double strokes. This friction being spread over both sides of the teeth, one side of the teeth receives not more than seventy-four inches of friction. These seventy-four inches divided by the thirty-two teeth give 2 5-16 inches that each outside of the tooth received per brushing. As there were two brushings per day, this would make 2x2 5-16, or 4 5-8 inches, that each outside surface of the enamel received per day. Let us now calculate the distance the two-inch pumice-charged brush wheel went over the tooth—the wheel being turned in a lathe going at the rate of 2,600 revolutions per minute. First, we must take into account that the brush during the time it ran was worn from two inches to 1½ inches in diameter, making a mean diameter of 1¾ inches. This would give a mean circumference to the wheel of 5½ inches. This 5½ inches multiplied by 2,600 equals 14,300 inches per minute that the brush travelled over the surface of the enamel, this would make it travel 3,432,000 inches during the four hours; 3,432,000 inches divided by 4 5-8 inches, the amount of brushing each tooth side gets per day, would make an equivalent of over 742,057 days, or about 2,000 years, that that side of the tooth would have been brushed in the normal cleansing process of the mouth. Of course, brushing with a stick and pumice might be more cutting than brushing with a brush, but this is offset by the fact that the wheel went at a rate infinitely faster than the brush in the mouth, making its action far more effective. Still, making any allowance for error, this experiment seems to conclusively prove that Methusaleh could have brushed his enamel twice or even four times a day for his whole life without giving it anything more than a brilliant polish.

## EFFECT OF CEMENTUM.

However when we consider the effect of pumice on the neck of the teeth where recession has exposed the cementum, we have a startlingly different result. A one per cent. pumice and precipitated chalk mixture run against the neck of a molar by a two-inch brush wheel for four minutes at 2,600 revolutions to the minute, makes a decided groove with a smooth surface not unlike the so-called chemical erosion found in the mouth. The same experiment tried with pure precipitated French chalk gives a similar groove. The same experiment tried with calox gives a similar groove. The same experiment tried with powdered carbonate of magnesia appears to make no perceptible impression; while running the clean, wet bristles of a two-inch brush over the cementum for seven minutes does not seem to do otherwise than give a polish without tendency to abrasion.

To make a further test a gold filling was inserted in the cementum and polished with precipitated French chalk with a two-inch brush, as before stated. The cementum was cut away from the filling, leaving the sharp edges of the gold projecting above the cavity edge in a manner very characteristic of the groove so often seen in gold protected gingival margins. If in the brush test the gold had been worn down equally with the cementum, it would have seemed a conclusive proof that the dissolution of the tooth in the mouth and consequent projection of the filling was due to some chemical solvent, but since friction does make the gold filling show the characteristic sharp raised edge, there is strong reason to believe that much of the erosion found at the gingival margins may be traced to abrasion caused by tooth-brushes charged with excessive grit. Of course, the fact that the brush wheel travels many hundred times faster than the tooth-brush, makes it possible that the swift friction accomplishes not only a deeper groove, but a different groove from the more slowly moving mouth brush. Still, an examination of the specimens will reveal that the grooves are strikingly similar to those found in the mouth, and the fact the wet bristles were used for seven minutes on the cementum at such a high rate of speed without inflicting injury certainly shows that the high rate of speed of the bristles does not cause the groove, but that the grit does.

## FRICTION WITH GRIT AND A SOLVENT.

However, friction with grit will not explain every polished groove in the surface of a tooth. The polished grooves that run straight through between the teeth, as pointed out by Black, and the grooves that appear in the enamel near the cutting edge, cannot possibly come from the ordinary friction, and must be explained in some other way, possibly by a solvent, such as acid calcium phosphate, as suggested by Dr. Kirk. But in the light of these experi-

ments and specimens, when we remember that the cuspid teeth are pre-eminently the ones that show gingival grooves, and that in a very small percentage of cases we find such grooves distally of the first molars and practically never in the third molars, there is good ground for the belief that a large percentage of these grooves are primarily and solely caused by tooth-brushes charged with grit. In the light of these facts, would it not be advisable to distinguish between chemical erosion and mechanical abrasion?

What are we then to do between the two horns of this dilemma? Grit abrasion on one side and infection on the other. Dark stains come to a tooth that the plain wet brush wheel in the engine, brushing for two minutes, will not remove, giving more friction than the tooth-brush would give in a year. The same brush with a small quantity of grit will rapidly cleanse and polish the enamel beautifully. There seems to be no escape. When grit is necessary for cleanliness, grit will have to be used. In cases in which no cementum is uncovered, pumice may be used with safety and benefit. If the cementum becomes bared and the grooves appear, let these grooves be filled with gold or porcelain wherever necessary, but let the teeth and gums be kept clean, even though chalk and pumice have to be used. Such erosion is more easily combated than infection of the enamel, dentin, cementum and gums. Infection can only be efficiently opposed by a good brushing of the teeth and gums with a tooth-brush. Let the tooth powder and grit be used to the extent necessary to keep the teeth clean, but let them not be used more than is necessary. In some mouths the tooth-brush and carbonate of magnesia may be sufficient. Powder used once a day, or even three times a week, may be sufficient. Let more plain tooth-brushes be used up.

In closing I will sum up the procedure with which the patient should daily care for the mouth. First, every proximal surface of every tooth should be swept with floss to remove not only bits of food, but any colonies of bacteria that may exist. Second, the teeth should be brushed until they are bright and clean, a chalk or a chalk and pumice powder being used as often as necessary. Third, some mouth wash should be held in the mouth for two minutes or more to destroy or inhibit the growth of the microscopic bacterial film necessarily remaining after the floss silk. This procedure should be gone through morning and evening, and is usually sufficient, but when an acid condition appears to exist in the mouth, the teeth should be bathed in milk of magnesia just before going to bed. I have not laid stress on agents for removing lump deposits, as I believe no efficient ones exist. Teeth can only be cleansed of deposits by scalers in the skilful hands of the dentist.—*Brief.*

## A CASE OF DELAYED ERUPTION

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BY J. CHOQUET, ECOLE DENTAIRE, PARIS.

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The patient, a woman forty years of age, of arthritic diathesis, consulted the author regarding a dull pain on the left side of the maxilla, which upon certain occasions would become lancinating in character. The patient wore a small plate supporting the left lateral incisor, the left canine, and several molars of the same side. An examination of the mouth was carefully made, and while nothing abnormal was found in the teeth, a swelling of the mucous membrane in the region of the lateral incisor was plainly visible. In the centre of the tumefaction a fistulous opening was present and through it an explorer was introduced. At a short distance from the opening the instrument came into contact with a hard and polished surface, the sensation thus produced being similar to that resulting from the contact of an instrument with an enamel surface. Upon questioning the patient it was ascertained that the left lateral incisor had never erupted. The patient returned a few days afterward complaining that the plate she was wearing at that time on the left side of the maxilla no longer adapted itself to the palate. An examination showed that the impacted lateral incisor was gradually erupting, and the cutting edge of the tooth—which by this time had pierced the mucous membrane—was interfering to a considerable extent with the stability of the plate. As the patient refused to dispense temporarily with the use of the plate, an opening was made in the latter to accommodate the erupting organ.

In the meanwhile the pain persisted, and was as intense as at the beginning of the attack. Dr. Choquet advised the patient to have the offending tooth removed at once, but as the woman declined to have the operation performed when it was first suggested to her, the tooth was not removed until two months later, when the pain and discomfort had become absolutely unbearable. The pain was doubtless caused by the absence of the enamel covering, while at the first examination, it was found to be white and polished, had entirely disappeared at the time of removal of the tooth, which was accomplished with great difficulty under cocaine anesthesia. With the exception of the absence of enamel covering, the tooth was otherwise of practically normal shape. The cementum, however, had become greatly hypertrophied. In concluding, the author describes the histological characteristics of the tooth.—*L'Odontologie*, Paris.

## **Proceedings of Dental Societies.**

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### **NOVA SCOTIA DENTAL ASSOCIATION.**

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The sixteenth annual convention of the Nova Scotia Dental Association was held in Oddfellows' Hall, Bridgewater, August 14, 1906. The meeting was called to order at 9 o'clock Tuesday morning by the President, Dr. S. G. Ritchie, Halifax. After the President's address the following officers were elected for the ensuing year; President—Dr. W. H. H. Beckwith, Halifax; Vice-President—Dr. F. S. Anderson, Bridgetown; 2nd Vice-President—Dr. T. A. Polley, Lunenburg; Secretary—Dr. W. C. Oxner, Halifax.

Committee on Education—Dr. F. Woodbury, Chairman, Halifax; Dr. H. Woodbury, Halifax; Dr. G. K. Thomson, Halifax; Dr. W. H. Beckwith, Halifax.

In the early p.m., Dr. G. A. Polley, of Lunenburg, inserted a large contour gold filling in a thin lateral incisor, upper, to the entire satisfaction of those present.

At 3 p.m., in response to an invitation by Dr. M. P. and Mrs. Harrington, Bridgewater, the Association enjoyed a delightful sail on the beautiful La Have River.

At 8 p.m. the Association was again called to order. The first paper of the evening was by Dr. Geo. K. Thomson, of Halifax, who presented for the consideration of the Association, "The Dental Education of the Public and School Children," describing what had been accomplished in foreign countries as well as Canada, and suggesting that the Nova Scotia Association might take steps to procure a revision of school books in so far as the subject of the care and preservation of the teeth is concerned, the appointment of dentists in the public schools to make periodical examination of the children's teeth, the distribution of booklets instructing parents and children with regard to prophylaxis of the mouth and teeth, and the examination of teachers on matters contained in school books.

The idea of lecturers on dental hygiene before school teacher associations was also suggested. After considerable and thorough discussion of the subject in which March, M.D., of Bridgewater, took part, heartily approving of the movement and offering assistance and support from the Medical profession, it was moved that a committee of three be appointed to carry out the suggestions outlined in the paper.

Drs. Geo. K. Thomson, Hibbert Woodbury and S. G. Ritchie were appointed a committee on "The Dental Education of the Public and School Children."



Dr. S. G. Ritchie's paper on "Heredity" was not completed, but from notes he gave a most scientific talk on the subject, as to its relation and bearing on irregularities of the teeth.

During a short interval the following table clinics were given. Dr. H. T. Smith, Truro, "Model preparation for perfect plate-retention"; Dr. W. H. Beckwith, Halifax, "Bridgework"; Dr. W. C. Oxner, Halifax, "Gold Inlay."

Owing to the lateness of the hour the last paper of the evening, "Our Professional Standards," by Dr. F. R. Thomas, of Amherst, was read by title.

A special vote of thanks, passed with enthusiasm, was tendered Dr. and Mrs. Harrington for their delightful excursion. Also votes of thanks to the essayists and clinicians, and all who had contributed toward such a successful meeting.

W. C. OXNER, *Secretary*.

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#### PRINCE EDWARD ISLAND DENTAL ASSOCIATION. ANNUAL MEETING AUGUST 1, 1908.

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The sixth annual meeting of the Prince Edward Island Dental Association was held August 1st, 1906, in the Y.M.C.A. Parlor, Charlottetown. It was the best meeting in the history of the Association—13 out of the 19 members being in attendance. The election of officers for the ensuing year resulted in Dr. A. L. Purdy being elected President; F. E. Smallwood, Vice-President; J. S. Bagnall, Secretary and Registrar, and J. P. Murray and J. H. Ayres being elected to complete the executive. An interesting paper was read by the retiring president, Dr. Ayres. A paper by Dr. J. E. McDonald, Summerside, formed the basis for an interesting discussion regarding the suggestions offered, he was given a vote of thanks. Dr. Bagnall demonstrated Dr. Gowan's method of gutta percha and amalgam filling of a badly decayed tooth. A committee, consisting of Drs. Bagnall, Smallwood and Beer was appointed to confer with similar committees of the New Brunswick and Nova Scotia societies for the purpose of drawing together by closer relations the associations of the Maritime Provinces.

No. 21.

BILL.

1906.

An Act to further amend "The Prince Edward Island Dental Act."

*Whereas*, since the passing of "The Prince Edward Island Dental Act," there has been formed in Canada, an association composed of representatives from the various dental bodies in

the different Provinces of Canada, known as the Dominion Dental Council, and such council has formulated and prescribed certain rules for the examination of members of the profession with the object of erecting and maintaining a uniform standard of education and ethics for the dental profession in the different Provinces of Canada, and granting certificates to those successfully passing such examination, and it is desirable that any person holding a certificate of qualification from the "Dominion Dental Council" should be permitted to practice dentistry in this Province without passing any further examination.

*Be it therefore further enacted* by the Lieutenant-Governor and Legislative Assembly of the Province of Prince Edward Island, as follows:—

Notwithstanding anything in "The Prince Edward Island Dental Act," or in any amendment thereof, or in any regulations made thereunder, any person holding a certificate of qualification from the "Dominion Dental Council," shall be entitled to be registered and have his name entered in "The Prince Edward Island Dental Register" as a qualified dental practitioner, subject to the same conditions, rules and regulations as if such person had obtained such right under the provisions of the said Act or any amendment thereof.

2. Sub-section (a) of section three of "An Act to amend the Prince Edward Island Dental Act" is hereby amended by inserting after the words "first class" in the fourth line from the end thereof, the words "or second class," and by inserting after the word "college" where it last occurs in said sub-section, the words "or who produces a certificate of having passed (a) the preliminary examination for matriculation into any institution in Great Britain or Canada recognized for the purpose of matriculation in medicine and dentistry by the General Medical Council of Great Britain; (b) matriculation into the Faculty of Arts of any Provincial University of Canada.

# Dominion Dental Journal

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No. 9.

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## CANADIAN DENTAL ASSOCIATION.

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The Canadian Dental Association met in Montreal, September 5 to 8, 1906. The attendance, the scientific aspect and the arrangements were not equal to those of the last meeting held in Montreal, 1902. There seemed to be some differences of opinion among the executive in Montreal as to the best way of running a convention. This difference of opinion required more attention than the meeting itself. However, there were some very excellent papers presented and an undoubted free discussion. The papers presented at Laval University were of public interest and might have been presented to larger audiences, but as it was, they were of great value in creating a public interest in the care of the teeth of the poor. The Commissioner of Education for the Province of Quebec spoke most encouragingly of the work. Judge Curran also spoke of the bene-

fits to be derived from public attention to hygiene of the mouth. Sir Frederick Borden could not be present, but sent his deputy, who spoke on the services of the dentist in the army. In the Board Room of Laval University, Dr. Dubeau was presented with a life-size portrait of himself by his friends in the dental profession. Dr. and Madame Dubeau gave a reception at St. Denis Club at the close of the session on Thursday evening. The banquet was held on Friday evening at the Place Viger Hotel.

#### OFFICERS AND PLACE OF MEETING.

Owing to many circumstances which the nominating committee could not become fully acquainted with in the short time at their disposal, the place and time of the next meeting were not decided upon. The important feature which helps to make any meeting a success is the cost of transportation. A much-reduced rate can be had if the Canadian Dental could meet at the same time and place as the Canadian Medical Association. The next Canadian Medical meeting will be held in either St. John or Winnipeg. This may influence the place of meeting of the Canadian Dental. Both the city of Ottawa and the city of Quebec want the next meeting. The Mayor of Quebec sent a special invitation. There is to be a celebration of the founding of the city of Quebec in 1908, which may have some influence over the place of meeting. The choice is left in the hands of the Executive Committee.

Officers chosen—President, S. W. McInnis, M.P.P., Brandon, Man.; Vice-President, Jas. M. Magee, St. John, N.B.; Secy.-Treas., W. G. L. Spaulding, Yonge Street Arcade, Toronto, Ont.

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The new Davis Dental Manufacturing Company, which joined with the S. B. Chandler Company, and went under the title of The International Dental Manufacturing Co., Limited, has now joined with the Temple-Pattison Company. The new company is to be known as the Temple-Pattison Company.

**TO LET.**  

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# Dominion Dental Journal

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VOL. XVIII.

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No. 10.

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## Original Communications

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OPENING LECTURE IN THE DENTAL DEPARTMENT,  
MCGILL UNIVERSITY, MONTREAL, SEPT. 29, 1906.

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BY F. A. STEVENSON, MONTREAL.

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At the beginning of the College Year our thoughts naturally turn to what lies before us. What we see as we look into the future depends largely on what we have been trained to see. No doubt there is something at which we are peering, but it is not always easy to form a correct idea of distant objects. There is one factor which is always present, and which may prevent us from forming a correct estimate, viz., temperament. Just as by looking through colored glass the landscape may appear bright and attractive, or gloomy and forbidding, so temperament colors all our mental pictures. Much may be done, no doubt, by training and experience, to modify this personal equation, so that what appeared unnaturally bright or unduly gloomy may be, in large measure, corrected; but the coloring of our particular temperament will be present in all our mental pictures.

The point of view is also of great importance. Things which appear from one standpoint to be insuperable obstacles may when seen from another side be found to be aids to progress. While, no doubt, it would be intensely interesting to study the effect of temperament on our outlook into the future, I have chosen the point of view for the subject of this address as being simpler, and not so likely to carry us out of our depth, where I fear the results would quickly be disastrous.

It makes a great difference to us as individuals from what

standpoint we view the problems of life. There is such a thing as being so near to the object of interest that almost nothing can be seen. A man may truly complain that he "cannot see the wood for the trees." If we are to form a just and adequate idea of proportion in our estimate of things we must be able to view them from all points of the compass. As an aid to a broad and comprehensive point of view of our specialty, an education laid on a broad basis will be found to be very desirable. Some years ago Sir Michael Foster in an address before the First International Dental Educational Federation, which met that year in Cambridge, likened the specialist's education to a pyramid.

He pointed out that the pyramid might be carried to an indefinite height in safety, provided that it were on a sufficiently broad foundation. While not wishing to belittle the progress made on this continent by our specialty, I think that it will not be denied that had our ranks been filled with men of broader culture we should probably have more certain knowledge of the etiology and prevention of the various pathological conditions that come before us for treatment. We have been so immersed in the slough of minute details that all our time has been occupied in inventing ways and means of rendering them less overwhelming. This, however, has not been without its good results, for probably from the point of view of mechanics we are very near perfection. The most delicate and difficult operations are to-day performed with comparative ease, and with very little or no pain, thanks to the persistent efforts put forth in that direction. On the other hand one has only to listen to a discussion on the treatment of pyorrhea alveolaris, or to read the account of the amalgam controversy to have a good illustration of the differences which must occur where men take partial or one-sided points of view of the same subject.

But possibly some of you are thinking, "What has all this got to do with us? We are not going into dentistry with the idea of doing any work at original investigation; if we can get the necessary percentage to pass, and can then find a place not already overcrowded with dentists where we may hang out our shingle and gradually build up a practice, that is all we want."

In reply, I would say that given two men of average intelligence, one of whom has received a thorough general education and the other little more than the three R's—the man whose mind has been trained to study and sustained thinking will be at a great advantage over one who has had no such training. Take my own case. When at college it was my good fortune to room with a man who was a B.A. We entered the Medical School together, and were, therefore, taking the same course. I had left school at 16 and had been for some years in a business office. We both realized the importance of keeping abreast of our work, but while I was struggling to commit to memory a

mass of comparatively unimportant details, he had been able to assimilate the lectures, and was enjoying his collateral reading, and making comparisons with his lecture notes. In studying anatomy his knowledge of Greek and Latin made the names of the various parts familiar, so that it was comparatively easy for him to remember them, and he was saved from mispronouncing names which to every Freshman is a keen humiliation.

I need not, I am sure, spend time in enlarging on the disadvantages that a man of little or no education labors under when brought into contact with educated persons. I hope that what has been said will make it plain that in order to easily master new subjects of study, a good general education is not only an advantage but a necessity.

The importance of the part of the course which is taken in the Medical School will appeal to you all. The properly qualified dentist should be well enough grounded in medicine and surgery (including surgical pathology), to be able to recognize the symptoms of diseases which may come under his observation. He should be specially well grounded in the pathology of the mouth and accessory cavities, or it will be impossible for him to practice intelligently. The dentist is in a position to recognize pathological conditions here at their inception, and may give warning in time to prevent the progress of diseases which, if neglected, would result in permanent disability or even in death.

I hope that in the near future it will be less and less the expectation for graduates of the Dental Department of McGill University to be graduates in Arts and Medicine as well. The course at present adopted is, I admit very long. Few men can afford to spend nine or ten years in preparation for their life's work. If in some way courses could be combined so as to bring the time within seven or eight years I think that men, especially the younger men, would go through all three departments.

We will now look at some of the conditions or qualifications which are necessary to the successful practice of dentistry as distinguished from other callings.

First, you must find your work interesting. This, of course, applies to every occupation, but it is inconceivable that you will be able to develop that patience and precision necessary to master the innumerable details of the various operations that you must perform unless you are thoroughly interested. You will perhaps be disappointed and somewhat confused to find that there are often several methods of obtaining a desired result. Study all the accepted methods intelligently, and demand a reason for each step in the operation. You will then be in a position to choose the course best suited to the case in hand. Remember that "order is heaven's first law" therefore proceed methodically. When you think that you know all the steps of



an operation, explain them to some other man, or try to write them down. You will probably be surprised to find how imperfectly you can do so. Cultivate a strict attention to detail. The man who is too impatient or too hurried to expend all the time and care needful on each phase of the work in hand can never hope to excel. At all costs be thorough when operating, while taking every known precaution to reduce pain to a minimum. To illustrate, I was taught that dental caries is more likely to recur at the cervical margin of the approximal spaces than elsewhere. When this occurs I believe that your experience will show that in the very large majority of cases it is due to either defective preparation or faulty filling. I have found that upon removing the defective filling and refilling with care that the trouble disappears. Here let me say that you will find it of great advantage to be able to excavate rapidly and easily by hand. But to return to our subject, besides attention to detail you must cultivate self-reliance. Never condescend, in order to please a patient, to adopt a course of treatment that in your judgment is wrong. You will repent it, because when the result which you have foreseen and predicted takes place you will not only be accused by your own conscience, but your patient will abuse you roundly also.

Cultivate courage, gentlemen, the courage which looks facts in the face and dares to "face the music." This is most needful, because it is impossible to be successful every time. When at the end of a tedious operation you discover a flaw, have the courage to bring your patient back and try again. In that way only can you retain your patient's confidence and your own self-respect.

Be punctual in meeting your appointments, and be found at your post during infirmary hours. On the other hand do not neglect your health. Arrange to spend part of each day in exercise in the open air. You will find it necessary to make a rule as to what time you keep for recreation. Excepting in emergency cases never work during your off duty time. This holds good in practice also.

In an excellent little book on "Success in Dental Practice," C. N. Johnston, of Chicago, says that if there is one operation more than another that you dread and feel uncertain of, that is the one to attack from every side. Read it up, practice it on models and in the infirmary, in short keep at it until you are master of every detail. We are all inclined to be seized with a kind of paralysis at the sound of the name of some operation which we do not thoroughly understand and upon which we have perhaps failed more than once. My pet aversion used to be cavities on the distal surfaces of lower molars. These bugbears became simple when they were thoroughly opened up so that easy access could be obtained.

But, gentlemen, I might go on enumerating and illustrating nearly all the excellent qualities of character as being indispensable to the highest success. We have already mentioned patience and perseverance, self-reliance, orderliness, courage, punctuality, and attention to detail. You must also be strong, firm, tactful, sympathetic, inventive, artistic, resourceful, and so on *ad infin.* Let me urge you to begin at once in your infirm-ary practice to cultivate all the qualities which you believe to be necessary to success. Please remember also that in the dental creed godliness and cleanliness are side by side. Now is your great opportunity to cultivate habits of accurate observation; above all work intelligently, understand the reason of things. If any of you have chosen dentistry as your profession because you think it an easy way of making a living, you will suffer a rude awakening before long.

On the other hand, the man of average intellect and manual dexterity will meet with success if he is thorough. No doubt much more is expected of the dentist to-day than ever before, but labor-saving devices of all kinds have been invented so that the man who can make an intelligent use of them finds his work greatly simplified. You will, however, be constantly brought face to face with more or less anomalous conditions, in overcoming which you will find scope for all your inventive faculties. Difficulties rightly viewed may become opportunities by which you may attain great success, but in order to convert difficulties into opportunities you must cultivate the habit of mind which takes a broad point of view of your calling and all its details.

I would like before closing to say something from the ethical point of view, but I am aware that it is a large subject, and one which of itself is worthy of more time than we can devote to it within the limits of this address. There are some things, however, which may be of help to you at the beginning of your course.

There are several definitions of ethics, but the following is perhaps sufficiently clear to serve our purpose: "Ethics is the art of directing men's actions to the production of the greatest possible quantity of happiness," also "it is the business of ethics to instruct each individual in what manner to govern his own conduct in the details of life." Taken together these two statements will give us a good idea of the aim of professional ethics.

It may be well at this stage to set clearly before our minds the chief differences which exist between the points of view of the tradesman and the professional man. I think they may be stated as follows:

Trade has for its *raison d'être* the personal gain of those engaged in it. All methods by which that gain may be increased (provided they are not immoral), must be employed by the trader. As a consequence rivalry and competition generally

exist between members of the same trade. Personal gain being the avowed object at stake, secret processes, advertising one's wares, and sending out employees to solicit orders, are all considered necessary to achieve the highest success.

The professional ideal is that one's chief business in life is the welfare of one's fellows. The professional man is a servant of the public, he has not entered his profession for the monetary rewards offered, but in order that he may contribute his quota to the betterment of humanity. It is no doubt true that the great mass of professional men have to earn their livelihood by the practice of their profession, but when gain usurps the place of devotion to duty the practitioner at once loses his ethical position, and is very quickly found out. For this reason codes of ethics have from time to time been drawn up for the guidance of the individual members of the various professions.

These codes of ethics all seek to point out a line of conduct that shall lead to the highest welfare of the individual and the community he serves. That is, it is unprofessional to use in your practice anything made of secret ingredients, for two reasons. First, you may be subjecting your patient to something actually harmful; second, as a professional man you are bound to work for the general good, and by using a secret preparation you are aiding one who has refused to take the same position. As to the harmfulness of the substance in question you may have a qualitative analysis made of it at trifling expense, you then know what you are using, and can judge of its probable effect. With regard to aiding a man or men who are avowedly working for their own good at the expense of the profession, I think you must look at it in this way. Your patient's welfare has the first claim on you, and if the secret and patented preparation, the contents of which you have ascertained, is in your judgment better than anything else then you must use it, but not otherwise.

Make it a rule not to give testimonials, "a good wine needs no bush." If a new preparation is what it claims to be the demand for it will quickly grow.

The position of the man who patents a mechanical invention has, I know, been hotly argued. That a man has a right to do so cannot be denied, but it seems to me clear that the moment he does so he ceases to be a professional man in the true sense, for he is putting his own advantage before the good of humanity. But, gentlemen, it is perhaps needless for me to remark that I have never invented anything worth patenting.

With regard to your conduct towards your patients and your confreres you have a standard for your guidance by which you can compare your actions, and feel that in so far as you have attained that standard you are beyond reproach. That standard of course is, "as ye would that men should do to you, do ye even so to them." That standard has stood the test of

2,000 years of storm and stress, and those who have succeeded in living nearest to the ideal which it inspires have won the devoted love and admiration of their fellows. And that, gentlemen, you will agree with me, is a reward worthy of our highest endeavor.

## AN ACT RESPECTING THE DENTAL PROFESSION OF SASKATCHEWAN.

College of dental surgeons ss. 2-5	Who may practice ss. 42-45
Council of college election ss. 6-19	Discipline ss. 46-48
Officers of college s. 20	Penalties ss. 50-54
Meetings of council ss. 21-23	Rights of physicians and surgeons s. 55
Powers of council s. 24	Clinical instruction of students s. 56
Examinations ss. 25-30	Funds of college s. 57.
Fees s. 31	Existing bylaws and rules s. 58
Remuneration of officers and council s. 32	Coming into force s. 59
Register ss. 33-41	

Assented to May 26, 1906.

His Majesty by and with the advice and consent of the Legislative Assembly of Saskatchewan enacts as follows:

1. This Act may be cited as "*The Dental Profession Act.*"

### COLLEGE OF DENTAL SURGEONS.

2. In and for the province there shall be a college of dental surgeons hereinafter called "the college," consisting of the members of The College of Dental Surgeons of the North-West Territories and all persons who may hereafter become members of the college as herein provided, and the members of the college are hereby constituted a body corporate under the name of "The College of Dental Surgeons of Saskatchewan," and shall have perpetual succession and a common seal, with power to sue and be sued and to acquire, hold and dispose of real and chattel property for the purposes of the college.

### QUALIFICATIONS OF MEMBERS.

3. The following persons shall upon payment of all fees required to be paid for that purpose be entitled to be registered as members of the college and to receive a certificate of license to practice dentistry and dental surgery in the province, which license shall be in form A in the schedule to this Act:

- (a) Any person who having been articulated and employed as a student to a member of The College of Dental Surgeons of the North-West Territories, or who hereafter may become so articulated or employed to and by a member of the college, and who

shall have served the term and shall have passed such examination as required by the council of the college.

(b) Any person who is a graduate of any school or college of dentistry of any of the provinces of the Dominion of Canada, and which said school or college as the case may be, has authority by the provisions of any statute of the Parliament of Canada or of the legislature of any of said provinces to grant certificates of license or diplomas to practice dentistry and dental surgery, and who having produced such evidence as the council may require of such qualifications as aforesaid, and who has passed the final examinations prescribed by the council for registration under this Act;

(c) Any person who is a member or graduate of any association, school or college in the United Kingdom of Great Britain and Ireland which said association, school or college is by the law of the said the United Kingdom of Great Britain and Ireland empowered to grant a license or diploma to practice dentistry and dental surgery, and who shall satisfy the council of such qualifications and pass the final examinations prescribed by the council for registration under this Act;

(d) Any person who is a graduate of any recognized school or college of dentistry in any state of the United States of America, and who shall satisfy the council of such qualifications and pass the final examinations prescribed by the college for registration under this Act;

(e) Any person who produces a certificate of qualification from the Dominion Dental Council to practice dentistry and dental surgery.

4. No person shall be entitled to be registered under the provisions of this Act unless and until such person satisfy the council that he is a person of good character.

5. No person shall be registered under the provisions of this Act unless such person be of the full age of twenty-one years.

#### COUNCIL OF THE COLLEGE.

6. The business of the college shall be transacted and carried on by a council herein called "the council," consisting of five members of said college in good standing who shall be resident in the province at the time of their election, and who shall, except as hereinafter provided, hold office for a period of two years from the date of their election or until their successors are elected;

Provided that until such time as the council shall have been elected there shall be a provisional council of the said college, consisting of W. D. Cowan, of Regina; C. C. Rowe, of Regina; P. F. Size, of Moose Jaw; L. D. Keown, of Moosomin, and F. M. Turnbull, of Prince Albert, which said provisional coun-

cil shall have and exercise all powers hereby bestowed upon the council until such time as a council is elected as hereinafter provided.

7. The first election of the council shall be held at such time and place as the provisional council may appoint, of which election one month's notice in writing shall be given by mail to each and every member of the college resident in the province, and at said election the three members receiving the greatest number of votes cast shall be deemed to be elected for a period of two years from the date of such election, and the two members receiving the next largest number of votes shall be deemed to be elected for a period of one year from the date of such election.

8. The annual election of members of the college shall be held at such time and place as shall be decided upon by the council, of which election one month's notice in writing shall be given to each and every member of the college whose name appears on the last annual register of members.

9. The persons qualified to vote at the annual election of members of the council shall be the members of the college who at the date of such election are residing in the province and whose names appear on the last annual register.

Provided, however, that at the first election the persons entitled to vote shall be all persons whose names appear in the register of the college of the province, and who at the time of said election are resident in the province.

10. Every member desiring to vote at any election of members of the council shall write on the voting paper, which shall be in form prescribed by the council, the names of the persons for whom he desires to vote, subscribe his signature thereto and return such voting paper to the secretary in a sealed envelope marked "voting paper," and only such voting papers as are received by the secretary up to the hour fixed for the holding of such election shall be counted by him.

11. The ballots so cast shall at the hour fixed for the holding of said election be opened and counted by the members of the council whose term of office has not expired and the required number of members receiving the highest number of votes cast shall be declared elected; all members of the college shall be entitled to be present at the counting of such ballots.

12. In the event of two or more candidates at any election receiving an equal number of votes the president shall determine which of said members shall be elected, and on the occasion of the first election shall determine in the event of an equality of votes being received by two or more members which of said members shall be elected for a term of two years and which for a term of one year.

13. In the event of any member voting for a greater number of members of the council than the number required to be elected

at any election the ballot cast by such member shall be deemed to be spoiled and shall not be counted, and all such ballots so spoiled shall be placed by the members of the council counting the ballots cast at such election in a separate envelope and delivered by said members of the council to the secretary, who at the expiration of one month from the date of election shall destroy same.

14. The members of the council counting the ballots at any such election shall, after such ballots have been counted and the result of the voting declared, place all ballots cast at such election in an envelope and securely seal the same and deliver such ballots so cast to the secretary of the council, who shall retain same for the period of one month and at the expiration of such time, if no proceedings in the meantime are taken to set aside such election, the secretary shall forthwith destroy such ballots.

15. Any member present at any election may object to any ballot cast at such election on the ground that the person casting the same is not qualified to vote and all such objections shall be determined by the members of the council counting the ballots cast at any such election and such members of the council may make any such inquiries and take such evidence as may be necessary to satisfy themselves as to the right of the member casting said ballot to vote at such election and in the event of said members of said council deciding that the person casting the said ballot was not entitled to vote at such election such ballot shall be forthwith destroyed.

16. Any member of the council may at any time during the term of office for which he is elected resign from membership in said council by notice in writing directed to the secretary of the said council.

17. In the event of any vacancy occurring in the council by the reason of the resignation of any member thereof as hereinbefore provided or by reason of the death of any member or by reason of any member ceasing to be a resident of the province during his term of office the members of the council at the first meeting of such council held after such vacancy has occurred shall elect from among the members of said college a person or persons to fill the vacancy or vacancies then existing in such council and the member or members so elected to fill such vacancy or vacancies shall hold office during the term for which the person or persons in whose stead they are elected was or were elected.

18. The secretary of the council shall publish in the first issue of *The Saskatchewan Gazette* to be published after the annual election of members of the council, or after any meeting at which a member of the council has been elected to fill any vacancy in such council, a notice giving the name or names of

the person or persons who has or have been so elected as member or members of such council.

19. If any member of the college desires to contest the validity of any election which is held pursuant to the provisions of this Act for the election of members of the council such member may within ten days from the date of publication of the notice of such election as hereinbefore provided, present a petition to a judge of the Supreme Court of the North-West Territories or any court hereafter to be established in the place of the said Supreme Court praying that said election may be set aside and the said judge shall upon the receipt of the said petition appoint such time and place as he may see fit for the hearing and determining of the matters complained of and after hearing the parties and such evidence as may be adduced shall decide the matters in question and the decision of such judge in respect of such petition shall be final ; the judge shall in and about such petition have such powers as may be exercised by him in any cause or proceeding in such court.

#### OFFICERS.

20. The officers of the college shall be a president, a vice-president and a secretary-treasurer, which said officers shall be elected by the members of the council from among their number at the first meeting thereof held after the annual election, which said officers shall hold office for one year or until their successors are elected.

#### MEETINGS OF COUNCIL.

21. The council shall hold at least two meetings in each and every year at such times and places in the province as the members of the council may determine.

22. The council shall have power to conduct final or intermediate examinations of students and applicants for registration and to transact such other business in connection with the college as may properly be brought before them.

23. The council shall not transact any business at any meeting thereof unless a majority of the members of the council be present at such meeting.

#### POWERS OF COUNCIL.

24. Subject to the provisions of this Act the council shall have power to make such bylaws, rules and regulations as may be necessary for the better guidance, government, discipline and regulation of the council and of the practice of dentistry and for carrying out the provisions of this Act.

25. The council shall have authority to make regulations respecting preliminary examination or the matriculation of all



students entering upon the study of the profession of dentistry in the province and to accept in lieu of such matriculation or preliminary examination any other satisfactory examination and to fix and determine the period for which such students shall be articulated to and employed under a member of the college and to prescribe the curriculum of such students, the intermediate and final examinations to be passed by such students to entitle them to registration under this Act and to make all such regulations and rules as may be necessary for the conduct of such examinations :

Provided always, however, that any person who at the time of the coming into force of this Act is regularly articulated to any member of The College of Dental Surgeons of the North-West Territories in active practice shall upon the approval of the council be deemed to have matriculated or passed the preliminary examination.

26. The matriculation or preliminary examination provided in the next preceding section shall be passed by all persons applying to be admitted as students of dentistry prior to becoming articulated to any member of the college :

Provided that a certificate from any university in the Dominion of Canada established by authority of any Act of the Parliament of Canada or of the legislature of any province that the applicant has passed the matriculation examination prescribed by the curriculum of any such university shall be accepted in lieu of the preliminary examination or matriculation required by this Act.

27. The matriculation or preliminary examination for the admission of students shall be held at such times and places in each and every year as may be determined by the council and all persons desiring to be so examined by the council shall notify the secretary-treasurer of his desire to be examined and pay to the secretary-treasurer the fees required for such examination.

28. The council shall also have power to examine candidates applying for a license under the provisions of section 3 of this Act and to make all regulations necessary for the conduct of such examinations and to appoint such times and places therefor as they may deem fit.

29. Every person who is desirous of taking the final examination of the council shall notify the secretary-treasurer of the council and shall pay to the said secretary-treasurer the fee required for such examination and furnish such secretary-treasurer with evidence of his qualification as provided in section 3 hereof.

30. The council shall also have power and authority to appoint a board of examiners to examine all candidates for preliminary, intermediate or final examinations, which said board

shall be governed by the regulations of the council and shall report the result of such examinations to the council.

31. The council may from time to time fix and determine the annual registration fee to be paid by the members of the college.

(2) There shall be payable to the college by students and persons applying for a license the following fees and no others:

- (a) For each matriculation or preliminary examination .....\$10.00
- (b) For each intermediate examination... 10.00
- (c) For each final examination ..... 25.00
- (d) For registration of license ..... 50.00

32. The council shall have power to fix the salary or remuneration to be paid or allowed to the officers of the college and to the members of the council for attendance at the meetings thereof and to the board of examiners in respect of the services to be performed by them in connection with the holding of examinations as hereinbefore provided.

#### REGISTRATION.

33. The council shall cause to be kept by the secretary a register in the form B in the schedule to this Act in which he shall enter the names of all members of The College of Dental Surgeons of the North-West Territories at the time of the coming into force of this Act, and from time to time the names of all persons who having complied with the provisions of this Act and of the rules, regulations and by-laws made thereunder are entitled to receive a license, and those persons only whose names are inscribed in such register shall receive the annual license as hereinafter provided and such register shall be open to inspection at all times.

34. Every person who applies to have his name entered in the register may appeal to the council of the college from any decision of the secretary and the council shall hear the appeal and determine the matters in question.

35. Every person who becomes articulated to any member of the college under and by virtue of the provisions of this Act shall within one month after the entering into of such articles of indenture deposit with the secretary-treasurer of the college a copy of said articles of indenture, and said secretary shall thereupon enter the name of such person as a student in dentistry in the register of students which shall be kept by the said secretary and shall be in form E in the schedule to this Act; every student whose articles of indenture are assigned by one member of the college to another member thereof shall within one month after the date of such assignment deposit with the

secretary a copy of such assignment and the secretary shall note in the register of students the date of such assignment and the name of the member of the college to whom such articles are so assigned.

36. Every member of the college in active practice in the province shall on or before the fifteenth day of January in every year pay to the secretary-treasurer of the college the annual registration fee and every person who subsequent to the fifteenth day of January receives a license to practice shall before entering upon active practice pay such registration fee.

37. Upon receipt of the annual registration fee the secretary shall forthwith issue to the person from whom such fee is received a license to practice the profession of dentistry and dental surgery for the year in respect of which such fee is paid, which certificate shall be in form C in the schedule to this Act and shall be sealed with the corporate seal of the college and signed by the president and secretary thereof, and such license shall be *prima facie* evidence in all courts of the province and in all proceedings of whatsoever kind or description that the person named therein is duly licensed to practice dentistry.

38. It shall be the duty of the secretary of the college immediately after the fifteenth day of January in each and every year to prepare an annual register in form D in the schedule to this Act, and such register shall contain the names and addresses of all members of the college who have paid the annual registration fee and shall cause the same to be printed and a copy of such register shall be sent to each and every member of the college.

39. Any person whose name is omitted from the annual register by the secretary may appeal from the decision of the secretary to the council and the council may hear such evidence as may be adduced and give such decision as the nature of the case may require.

40. If at any time it shall be proved to the satisfaction of the council that the name of any person has been improperly inserted in the annual register such name may be erased therefrom by the council.

41. Any person who has applied for registration under the provisions of this Act or for an annual certificate, and whose application has been refused, or whose name has been removed by the council from the annual register as in the next preceding section mentioned, may at any time within six months from the date of the refusal of such application or such erasure appeal to a judge of the Supreme Court for such relief as the nature of the case may require; and such judge shall appoint a time and place for hearing said appeal and cause due notice thereof to be given to all parties interested and such judge may hear any evidence which may be adduced and make such order as the

nature of the case may require, and such judge shall also have power to make such order as to payment of costs as shall be just.

#### WHO MAY PRACTICE.

42. All persons who have received a license to practice under this Act and who have paid the annual registration fee and no other shall be entitled to practice the profession of dentistry and dental surgery in the province.

43. No person shall be entitled to sue for or to recover in any court in the province any fee or remuneration of any sort or description in respect of any professional services rendered or materials provided by such person in the exercise or practice of the profession of dentistry or dental surgery unless such person holds from the college a license to practice dentistry and dental surgery in the province at the time such services are rendered or materials provided.

Provided, however, that nothing in this section shall prevent any person from suing for and recovering in the Supreme Court of the North-West Territories or in any court of the province having jurisdiction any amount or amounts which he would be lawfully entitled to sue for and to recover for any professional services performed or rendered by him or materials provided by such person in the exercise or practice of the profession of dentistry or dental surgery prior to the coming into force of this Act, and which such person would be entitled to sue for and recover under and by virtue of the provisions of any Ordinance of the North-West Territories.

44. Every person who has been licensed as herein provided shall be entitled to demand, sue for and recover in any court of the province having jurisdiction, with such costs as are by such court allowed, the reasonable charges of such person for professional aid, advice and visits and the costs of any medicine, material or surgical appliances supplied while such person was so licensed.

45. Any person licensed as herein provided and who has made default in payment of the annual registration fee in any year or years, and whose name has by reason of such non-payment been omitted from the annual register, shall be entitled to have his name entered upon such annual register upon payment to the secretary-treasurer of the college of the annual registration fee for the then current year, and for each and every year in which default has been made as aforesaid, and upon such payment being made the secretary-treasurer shall issue to such person an annual license for the then current year.

#### DISCIPLINARY.

46. The council of the college shall have jurisdiction and authority to hear and determine any charge or complaint which

any person or persons may make against any member of the college in respect of the breach or violation by such member of any of the by-laws, rules or regulations of the council for the government, regulation and direction of the members of the college or in respect of malpractice by any member of the college and upon receipt by the council of any complaint as aforesaid the council shall fix a time and place for the hearing of such complaint, of which time and place the member against whom such charge is made and the person or persons making such charge shall have due notice, and at the time and place so fixed the council shall meet and hear such evidence as may be adduced, and if the said charge or complaint be found to be proven against such member the council may suspend such member from the practice of dentistry or dental surgery in the province for such period as they may see fit or may cancel and annul the license of such member and erase his name from the register of the college;

Provided, however, that such member so suspended or whose license shall be cancelled as herein provided may be reinstated by the council and the said license and all rights and privileges thereunder fully renewed and restored by the council in such manner and upon such conditions and terms as the council shall see fit.

47. The person against whom any such complaint is made, together with the person or persons preferring the same or the council, may obtain from the clerk of the Supreme Court of the North-West Territories or of any court which may hereafter be established in its stead, a *subpoena ad testificandum* or a *subpoena duces tecum* requiring the attendance of any witness or witnesses before the council at the hearing of such complaint.

48. Any person suspended from practice of the profession of dentistry or whose license has been cancelled and whose name has been erased from the register of the college by the council as herein provided may at any time within six months after the date of the order of the council appeal to a judge of the Supreme Court for such relief as the nature of the case may require and the judge to whom such appeal has been taken shall after due notice to all parties concerned hear said appeal and may make such order as to the restoration of the name of the appellant or confirming such erasure or for further inquiries into the facts of the case by the council and may also make such order as to costs as shall be just.

49. The council may order to be paid out of the funds at their disposal such costs as to them seem just to any person against whom any complaint has been made which when formally determined is found to be frivolous and vexatious.

## PENALTY.

50. Any person not holding a license to practice dentistry and dental surgery in the province and who has not paid the annual fees to be paid by such member in any year as hereinbefore provided who shall within the province practice the profession of dentistry or dental surgery, either publicly or privately, for hire, gain or hope of reward, or who shall wilfully and falsely pretend and hold himself out to be duly qualified to practice dentistry in the province and assume any title, addition or description implying or calculated to imply or to lead the public to infer or believe the person so assuming or holding out to be duly qualified shall be liable upon summary conviction by a justice of the peace or police magistrate to a penalty not exceeding \$200 and not less than \$50 for a first offence, and for each and every subsequent offence to a penalty of not more than \$400 and not less than \$100.

51. In the event of the conviction of any person under and by virtue of the next preceding section the justice of the peace or police magistrate by whom the said conviction shall have been made shall have power, in addition to the aforesaid penalties, to award payment of costs of such proceedings and to adjudge that in case such penalties and costs be not paid forthwith after conviction that a warrant of distress issue in respect of the amount of such penalty and costs or either of them and that in the event of there being insufficient distress to satisfy the amount of such penalty and costs that the person so convicted be imprisoned in any common gaol in the province for a period not exceeding three months.

52. The said justice shall forthwith after payment of the amount of the penalty to be paid by any such person so convicted as aforesaid transmit the same to the secretary-treasurer of the college and such penalty shall form part of the funds of the college.

53. Any prosecution of any member of the college under and by virtue of the provisions of this Act shall be commenced within six months after the date of the commission of the alleged offence.

54. In any prosecution of any person under the provisions of this Act for any of the offences set out in section 50 thereof the onus of proof that the person against whom such charge is laid is duly entitled to practice dentistry and dental surgery in the province, and is duly registered under the provisions of this Act shall be upon the person against whom the said charge is made.

55. Nothing in this Act contained shall interfere with the privileges conferred upon physicians and surgeons by the various Acts relating to the practice of medicine and surgery

in the province; but in case a physician and surgeon shall desire to practice dentistry as a profession and to publicly avow himself as a practitioner of said profession he shall first obtain a license from the council by paying the necessary fees and passing an examination in operative and mechanical dentistry only.

56. Nothing in this Act shall prevent any duly indentured and registered student of dentistry from receiving clinical instruction and practice under the personal supervision of a member of the college.

#### FUNDS OF COLLEGE.

57. All fees and other moneys payable under and by virtue of the provisions of this Act shall be paid to the secretary-treasurer of the college and shall be applied by direction of the council for the purposes of the college.

#### FORMER BY-LAWS, ETC.

58. All rules, regulations and by-laws of The College of Dental Surgeons of the North-West Territories existing at the coming into force of this Act shall be the rules, regulations and by-laws of the college until amended, altered or repealed by the council.

59. This Act shall come into force upon The College of Dental Surgeons of the North-West Territories being dissolved and abolished by order of the Governor-in-Council and upon such college being so dissolved chapter sixteen of the Ordinances of the North-West Territories, passed at the second session of the year 1903, shall be repealed by proclamation of the Lieutenant-Governor-in-Council.

#### SCHEDULE.—FORM A.

##### (Section 3.)

#### LICENSE TO PRACTICE DENTISTRY.

The College of Dental Surgeons of Saskatchewan, by virtue of authority vested in it by the Legislative Assembly of Saskatchewan, awards this certificate to

who has complied with all the requirements of the law regarding the practice of dentistry and after due examination or by application to the council has been adjudged qualified to practice dentistry in all its branches in the province.

In witness whereof we, the undersigned members of the council of the college, have hereunto signed our names and attached the corporate seal of the college this                      day of  
one thousand nine hundred and

.....*President.*

.....*Vice-President.*

.....*Secretary.*

FORM B.  
(Section 33.)  
REGISTER.

NAME	RESIDENCE	QUALIFICATION
A. B.		Certificate of license, 15th March, 1895.
C. D.		6 month's practice prior to November 22nd, 1889.
E. F.		Member of ( <i>stating name of college or school and where situate</i> ).

FORM C.  
(Section 37.)

CERTIFICATE OF ANNUAL REGISTRATION.

I hereby certify that *A. B.*, being the holder of a certificate of license to practice the profession of dentistry from the day of \_\_\_\_\_, 19\_\_\_\_, duly registered as a member of The College of Dental Surgeons of Saskatchewan and is authorized to practice his profession up to the \_\_\_\_\_, subject to the provisions of *The Dental Profession Act*.

(Signed),

*E.F.*

Corporate seal  
of the  
College.

.....

*Secretary of  
The College of Dental Surgeons of Saskatchewan.*

FORM D.  
(Section 38.)

ANNUAL REGISTER OF MEMBERS OF THE COLLEGE OF  
DENTAL SURGEONS OF SASKATCHEWAN.

NAME	ADDRESS



## FORM E.

*(Section 35.)*REGISTER OF STUDENTS OF DENTISTRY OF THE COLLEGE OF  
DENTAL SURGEONS OF SASKATCHEWAN.

NO.	NAME	ADDRESS	DATE OF MATRI- CULA- TION	TO WHOM ARTI- CLED	DATE OF ARTI- CLES	ASSIGN- MENTS

## Selections

### DRUGS AND THEIR COMBINATIONS.

By. J. P. BUCKLEY, D.D.S., CHICAGO.

Read before the Northern Indiana Dental Society, at Logansport, September 19-20, 1905.

One of the first things that I would present to you and one of the first things that you would like to find in the study of drugs is something that can be used for the obtunding of sensitive dentin ; and, inasmuch as I can begin here and get at the removal of the pulp, and the drugs so applied, and take up the treatment of putrescent pulps on up to the treatment of pyorrhea alveolaris, etc., I shall begin with the treatment of sensitive dentin. We would all be pleased if we could find something here that would be so valuable in our practice that every patient would be willing that we should apply it. Unfortunately, some of the various formulæ that have been used for obtunding sensitive dentin are injurious, and when I say we would be glad to find a formula, I mean one that we can apply to the dentin that will not have a deleterious effect upon the pulp.

I believe that the best class of drugs that can be used in the treatment of sensitive dentin is the anodyne. A little preparation to which I want to call your attention is—

R	Menthol .....	gr. xx
	Etheris .....	f $\frac{3}{4}$ ss
	Chloroformi .....	f $\frac{3}{4}$ j

Sig :—Use as directed.

It is not a panacea for all ills. It will not completely desensitize all dentin, but it will give you aid in the painless preparation of sensitive cavities, especially where there is an extensive area involved. This preparation is menthol, ether and chloroform. The way to apply it is as follows : As soon as you get the rubber dam adjusted, take just a little pellet of cotton and dip it in the mixture and place it in the cavity, and go on working at getting the instruments ready. By the time you are ready to commence preparing that cavity the two volatile liquids in this preparation will be volatilized by the normal heat of the tooth. This volatilizing action drives the menthol, which is an anodyne, into the dentin. You will remember that no solid can be changed into a liquid and no liquid can change into a gas unless it is done by a certain law of physics, that law by which heat is extracted from some source, in order to liquefy the one thing or volatilize the other. It is on this principle that this little remedy—menthol, ether and chloroform—acts.

One of the best things in connection with drugs that has been called to our attention within the last few years is the use of cocain under pressure for removal of the pulp. Before leaving the treat-

ment of sensitive dentin I want to call your attention to the objections to using cocain pressure for the purpose of obtunding sensitive dentin. You know that you can completely obtund the dentin of the tooth and painlessly, absolutely painlessly, prepare the cavity by the use of local anesthetics ; but these local anesthetics have to be used under pressure. Now, let us reason out what takes place. It is absolutely impossible to apply an equal amount of pressure over the entire surface of the dentin that is decayed. If you could force the solution into all the tubuli and obtund the fibrillæ without forcing it through at some point into the pulp, then you could use this method without danger of subsequent trouble. This, I hold, you cannot do. In order to excavate the entire dentin painlessly, you have to anesthetize at least the coronal portion of the pulp. It is difficult to do this without anesthetizing the entire organ.

I make this statement and stand by it, that I do not think we are ever justified in anesthetizing the pulp for the painless preparation of sensitive cavity. My experience has caused me to make such a statement, because I have found that in a large majority of cases, where the pulp has been completely anesthetized, it caused subsequent trouble. Such trouble may come from two or three sources. There are ptomaines formed in the decomposition of all albuminous material, and in using this method you either force these poisonous substances into the pulp thus subsequently causing the trouble, or else it is caused by the cocain itself. Those who are familiar with pharmacological research know that cocain is a protoplasmic poison, and if retained in that delicate and sensitive tissue may cause trouble. Cocain acts deleteriously upon all tissues. It is a mistaken idea to think that it only acts on the nerve tissue. The only reason afforded for thinking so is that the effect can be seen, as it were, on the nerve tissue, and not upon the other tissues of the pulp, from the fact that the nerve tissue is the medium of expression and sensation. While cocain cannot be used practically for obtunding sensitive dentin, it can be for the painless removal of the pulp tissue.

When I first began to remove pulps of the roots of teeth by means of pressure anesthesia, I had more pericemental trouble than when I used arsenic. That was a fact too conspicuous to be observed. I do not know whether that has been the experience of others or not. There must be a reason for this, and I have traced it to the same source as that which irritated the pulp when this method was used for obtunding the sensitive dentin. Too much pressure was used at first, and we were careless about sterilizing the cavity and about confining the solution under the pressure. These things we have to learn from sad experience. We know that the agent used is a protoplasmic poison, and we ought not, therefore, to force it any further than absolutely necessary for the painless removal of the pulp. We have learned to distinguish between the method of applying cocain by means of pressure for the removal of pulps from the teeth, and the method of applying arsenic.

That is one thing that you have to learn—how to completely sterilize a cavity. Then you must be careful not to force the

anesthetizing solution any further than is absolutely necessary. There is a difference in the manner in which a cavity can be sterilized in the anesthetization and the devitalization of the pulp. In using arsenic we mechanically sterilize the dentin ; that is to say, when the patient returns for the second sitting, with a round bur we mechanically excavate that portion of the dentin which is decayed and which is literally saturated with micro-organisms and their poisonous ptomaines. To sterilize the cavity when using cocain with pressure chemical agents must be used. The dentin is sensitive, therefore cannot be mechanically sterilized, and if you fail to sterilize by other means you may force the micro-organisms and ptomaines through the end of the root and pericementitis follows.

Now, you may ask what drug can be used to thoroughly sterilize that dentin. Formerly, I used a 1-200 solution of sublimine, a substitute for bichlorid of mercury, and continued to do so until I had tests made and found that it was not so good a disinfectant as we had been led to believe. Recently I have been using Dr. M. L. Rhein's solution. This preparation, if you will apply it to the dentin, will afford a nearly chemical sterilization of that dentin ; and it or some other good disinfectant should be applied before you use the local anesthetic. This solution is  $1\frac{3}{4}$  grains of bichlorid of mercury dissolved in two ounces of peroxid of hydrogen, making approximately a 1-500 solution. Marchand's peroxid of hydrogen is what Dr. Rhein suggests using, because all peroxid of hydrogen will not make a clear solution.

I repeat that while I do not use pressure anesthesia for the purpose of painlessly excavating the cavity, I do use it for extirpating the pulp tissue. In certain cases, however, it is necessary to use arsenic. I believe arsenic has served us too well and too long to throw it aside.

A good formula is here given :

R.	Acidi arseniosi .....	ʒi
	Cocainæ hydrochloratis .....	gr. xx
	Menthol .....	gr. v
	Lanolini .....	qs. to make a stiff paste.

M. Sig : Use the desired quantity.

In this prescription you will find arsenious oxid as the base, and cocain hydrochlorate—a local anesthetic that is put in the prescription for the purpose of controlling the irritating action of the arsenic. Menthol is also added, and these three powders made into a paste by using lanolin. The action of the remedy will depend largely on the way it is put up. If the druggist understands his business he will know that menthol is a highly deliquescent substance, and since the water in the lanolin is sufficient to liquefy the menthol, it takes very little to make a nice paste out of arsenious acid and cocain hydrochlorate.

After you have removed the pulp by pressure anesthesia, or by the use of arsenic, it is necessary to fill the canal. In performing this operation a good many believe that gutta percha also has served us too long and too well to be discarded. Those who think that there is virtue in guttapercha as a root filling, and who are in

the habit of using eucalyptol can get better results by using this formula :

R Thymol ..... gr. ij  
Menthol ..... gr. ij  
Eucalyptol ..... f ʒj

M. Sig: Use as directed.

Eucalyptol is used because it is a slight solvent for guttapercha. There is a difference between eucalyptol and oil of eucalyptus. If you use the latter you will have a beautiful case of pericementitis every time. Oil of eucalyptus contains three constituents, one of which is eucalyptol, which distils over first because it is the most volatile of the three. Eucalyptol, while it is not so irritating as the oil of eucalyptus, still is irritating. By adding thymol which is a disinfectant, and menthol, a local anesthetic, you can modify the irritating properties of eucalyptol, as well as enhance its disinfectant power.

Sometimes in using the eucalyptol preparation, if you should use a little too much, or fail to use care and judgment, you may have a case of pericementitis to treat. In that case, instead of using equal parts of aconite, tincture of iodine and chloroform, you get excellent results by using this preparation :

R Tincturæ aconiti (rad)..... f ʒj  
Chloroformi..... f ʒiv  
Menthol ..... gr. xx

Now I come to the discussion of remedies to be used in the treatment of putrescent pulps and abscesses with some satisfaction. Until recently drugs have been selected and used in the treatment of these conditions absolutely empirically. There is a tendency in dentistry and medicine at the present time to apply therapeutics along rational lines. We are not satisfied to know that we get a certain result, or that by using certain drugs we produce a certain result. We are anxious to know why that result is produced. I believe that we have the treatment of putrescent pulps and blind abscesses put upon a rational basis. In order to have you understand this thoroughly I must digress just enough to call your attention, briefly, to the chemistry involved in the decomposition of pulp tissue. Pulp tissue is supposed to be composed of proteids, carbohydrates and fats. There are some men in our profession who do not believe that there is any fat in the original pulp tissue. I know men in Chicago who do not believe that there is any carbohydrate in pulp tissue. If we accept these opinions that there is no fat on the one hand and that there is no carbohydrate on the other, we must conclude then that pulp tissue is all proteid or albuminous material. Personally, I cannot accept these statements.

This is the point I want to make, that whether there are fats present in the original pulp tissue or not, in the treatment of putrescent pulps we have to take into consideration the presence of fatty compounds, because chemists have proved conclusively that in the decomposition of this albuminous material fat is one of the end products.

R.	Formalini.....	
	Creasoti.....	aa f3j
	Alcoholis.....	m xx

M. Sig: Use as indicated.

Excellent results can be obtained in treating putrescent pulps by using the first formula under this heading: Formalin and creasote, equal parts to which alcohol has been added. You will see in some journals the suggestion that equal parts of formalin and creasote can be used, but those who know anything about pharmacy, or have tried to mix them, will know that they will not make a clear solution; but add alcohol to the mixture and it will clear the solution.

Some journals have suggested the using of equal parts of formalin, creasote and alcohol. Alcohol is only added for the purpose of clearing the solution, and all that is necessary is to take enough alcohol to clear the solution. I find that for a drachm, approximately, of the formalin and creasote ten minims of alcohol is sufficient.

R.	Formalini.....	
	Tricresol.....	aa f3j

M. Sig: Use as indicated.

The second formula for the treatment of putrescent pulps is formalin and tricresol. Tricresol you can get absolutely colorless, just as this sample is, but it is hard to obtain. Most of the specimens are colored. It is like carbolic acid, inasmuch as exposure to the air and light for any length of time will cause it to become colored. Tricresol and formalin in equal parts will afford a better remedy for treating putrescent pulps than creasote and formalin, for three reasons: First, tricresol and formalin are miscible in all proportions. It will appear at first as though they are not going to mix, but by simply shaking the test tube a clear solution results. Without the addition of any alcohol, these two drugs will mix in all proportions. That is one reason why I prefer tricresol to creasote in the treatment of these cases. The second reason is that tricresol is a much better disinfectant than the creasote. It is three times as good a disinfectant as carbolic acid. In the past drugs have been selected and used in the treatment of putrescent pulps only because of their ability to inhibit the growth of micro-organisms, or to kill germs. There are many other things, such as irritating gases and poisonous ptomaines, that are formed in the root canal, and it is as necessary to dispose of these substances chemically as it is to kill the germs. This remedy will kill the germs and also dispose to advantage of the by-products of decomposition. The third reason, and the most important one for selecting tricresol instead of creasote, is because I believe this agent acts chemically upon the fats.

By selecting a remedy which can be hermetically sealed within the tooth, you are all the more happy for several reasons. Hermetically sealing a remedy keeps the saliva from contaminating the medicine and prevents the medicine from contaminating the saliva of the patient's mouth. We have still another advantage, as by so doing we prevent the tooth from changing color, provided, of

course, we have the tooth to treat before it has become discolored. It is the formalin that gives us the advantage of hermetically sealing this remedy, because from this mixture is generated formaldehyd gas, and the two main gases that are formed from putrescent pulps are ammonia and hydrogen sulphid. If gas accumulates pressure would be produced and this would force some of the poisonous ptomaines through the apices of the roots. These ptomaines have been proved capable of setting up inflammation and suppuration. By using this remedy, which generates formaldehyd gas, we know why we can hermetically seal the cavity. The two gases, formaldehyd and ammonia, come in contact with each other, and there is formed protropin, which is used in medicine to disinfect the urinary tract. We do not care so much about that as we do the fact that we can have this gas from our remedy come in contact with the gas within the tooth, and we can change it into a solid. Then the same gas, formaldehyd, will come in contact with one of the other gases, hydrogen sulphid, and it will convert it into wood alcohol and sulphur. If it is possible to convert the two main gases,  $\text{NH}_3$  and  $\text{H}_2\text{S}$ , found in the putrescent canal into *solids and liquids*, the tooth can be hermetically sealed and the patient go home happy.

The tricresol acts to advantage upon the fats. It is my belief that lysol, or something resembling it, is produced by chemical action of tricresol upon the fatty compounds. This belief has been brought about because of the fact that lysol is practically a solution of cresols in fats. There are three cresols, ortho, meta and para, and a mixture of these three cresols is what is known as tricresol now recognized by the U. S. P. of 1900 as cresol. This is what I have used in combination with formalin to get this so-called rational treatment for putrescent pulps. The value of formaldehyd here depends upon the power the gas has of uniting chemically with mephitic gases. When these gases are not present to any extent formaldehyd is contraindicated in this strength solution. This remedy, I know, is being used everywhere, but it should not be. If the teeth have been treated, and the gases disposed of that come from a putrescent pulp, this remedy has no business there. In such cases tricresol should be used alone, or as an alternative, most anything after having disposed chemically of the gases. Dentists should not expect to find one drug or one remedy which can be used in every case all through their practice. This remedy has been used where it is contraindicated. Its use is indicated only where these gases are to be contended with.

B	Formalini.....	f 3j
	Tricresol .....	f 3ij

M. Sig: Use where indicated.

Where these gases are found only in small quantities the formula can be modified and would then be two parts tricresol and one part formalin.

In treating these acute abscesses sometimes it is necessary to give potassium iodid. A good prescription for potassium iodid,

wherever you want to use it, is given here, and was formulated with the idea of aborting an abscess.

R Potassii iodidi..... ʒj ss  
Syrupi sarsaparillæ comp..... f ʒiij

M. Sig: Take a teaspoonful in water after meals.

If the patient failed to present for treatment until the putrescent material had been forced through the end of the root, open up into the pulp chamber, treat as usual, and then prescribe this alterative mixture of potassium iodid. The compound syrup of sar-aparilla is preferred to other vehicles for several reasons, one being that it is a pleasant syrup to take. The compound syrup of sarsaparilla contains extract of senna, which is laxative, extract of liquorice, a stomachic, and extract of sarsaparilla, a tonic; also the oils of anise, sassafras and wintergreen. In addition to having a tendency to mask the nauseating taste, it also has therapeutic properties, all of which would be useful in this particular instance. Instead of giving the medicine before meals, as is the general rule, this should be prescribed on a full stomach. Add a teaspoonful to half a wine-glass of water and have the patient take it after meals. General directions would be to take a teaspoonful three times a day, but in cases of incipient abscesses the patient should take a spoonful every two hours until three doses have been taken, and then follow the directions written on the label.

R Liquoris magnesi citratis..... f ʒ xij

Sig: Take one-half at once and the remainder in two hours, if necessary.

One of the things that should be avoided in treating these conditions is the accumulation of blood in the part. I call attention to this prescription for two reasons. It is an example of a saline cathartic, and saline cathartics are indicated especially where we are trying to abort the formation of an abscess. Then, besides being a saline cathartic, it is an example of an official preparation and illustrates how a prescription should be written for an official preparation. From experience behind the prescription counter, and my privilege of looking over the files of druggists and seeing the slipshod manner in which many prescriptions are written by dentists, it seems to me necessary to mention this. In writing a prescription for Dover's Powder, for instance, another official preparation often used by dentists, all that would be necessary is:

R Pulveris opii et ipecacuanhæ.

Here is a useful prescription. Wherever there is an abraded surface it will stop pain like magic. It is necessary to write this prescription, for these two powders can be taken and mixed with oil, all three of them being insoluble in water. Wherever there is an exposed surface dry it, put on this oleaginous mixture, and then the water from the saliva will be thrown back, because water and oil are physically incompatible.

R Euophen.....  
Orthoform ..... aa ʒj  
Petrolati liquidi..... qs. to make thin paste

M. Sig: Apply to abraded surfaces,



R	Cocainæ hydrochloratis .....	gr. vj
	Acidi carbolici .....	m ij
	Aquæ menthæ piperitæ .....	qs. ad. f ʒj

M. Sig: Use as a local anesthetic hypodermically.

This local anesthetic formula is a modification of other formulas now in use. The vehicle is peppermint water because it contains enough menthol to mask the bitter taste of cocain. Most of the local anesthetics are bitter. Peppermint water is not strong enough, however, to keep the fungus growths from forming in this solution, so a disinfectant can be added (carbolic acid) for the purpose of keeping sterile the solution. I have prescribed only one ounce, and, if I have freshly prepared peppermint water with the acid used this solution will keep sterile for the length of time it takes to use one ounce of the fluid. The feature of this solution calling for special attention is that in nineteen minims there is contained one-quarter of a grain of the alkaloidal salt. We are justified in injecting into the system, at one time, one-quarter of a grain of cocain. It may not always be necessary to do this, but it will be in some instances. That does not mean that in this prescription only nineteen minims may be used, for some portion is always wasted in trying to get the air out of the syringe, and the tissues are apt to bleed. Perhaps fifteen minims, or two syringefuls, might be used without even getting one-quarter of a grain into the system.

Should I be so unfortunate as to have a patient die from using cocain I would a thousand times prefer to have the prescription on record in the drug store, thus making it possible to say that I used a syringe of a certain anesthetic, the constituents of which I knew, as also the exact amount of cocain contained therein, than to say that I used Dr. Smith's Celebrated Local Anesthetic, the amount of cocain in which I did not know. Cocain is one of our most useful drugs. Use it we must: therefore, we want to know how to use it, and the exact amount we are using.

In using cocain solutions it is a wise precaution to keep antidotes at hand, the best one being strychnin. A 1-40 grain of this drug I have always close at hand. A homeopathic tablet of nuxvomica is useful, for if the patient feels slightly faint, three, four or more of such tablets may be given. Nitroglycerin is used in about a 1 per cent. solution. It has been known that by depositing a drop or two of the 1 per cent. solution nitroglycerin under the tongue it gets into the circulation inside of five minutes, and that is as quick as you can get the strychnin into the syringe for injection into the arm. Nitroglycerin, notwithstanding the fact that it is used in a great many local anesthetic preparations, is not as good as strychnin, in my opinion.

Turning next to the sterilization of instruments by the use of drugs, the following will be found to answer the purpose admirably:

Formalin, to which has been added a 10 per cent. solution of borax. Bichlorid of mercury will tarnish instruments, as also will formalin if used alone. The formula suggested, however, makes a solution in which instruments are readily disinfected without tarnishing.

## A PLEA FOR THE MORE CONSERVATIVE USE OF ANESTHETICS, NARCOTICS AND SEDATIVES IN DENTAL PRACTICE.

BY C. P. PRUYN, M.D., D.D.S., CHICAGO, ILL.

Read before the Illinois State Dental Society, May, 1906.

To assist in the alleviation of pain as a life work has always been considered worthy of the highest efforts of a certain number of mankind, from the earliest known history to the present day. The middle of the nineteenth century will always be known as marking an epoch in the achievement of this much to be desired condition, especially in surgery. And while we of the present day can not do too much homage to the names of Horace Wells, W. T. G. Morton and Simpson, the discoverers of the use of nitrous oxide, ether and chloroform, we can hardly imagine how we could get along at the present time without the use of these and kindred agents. But it is the province of this paper to deal with the abuses rather than the rational uses of anesthetics, narcotics and sedatives. The reckless and careless manner in which inexperienced men have used anesthetics in the past has often been more harmful than the shock of the surgical operation. The permanent evil effects of chloroform upon an already weakened heart and arteries, and the irritating effects of ether upon weak lungs and kidneys have often, as you know, been of too serious a nature to justify us in considering the administering of an anesthetic a simple operation. Fortunately, however, during the last few years there has grown up in some of our large cities a class of men known as professional anesthetists, whose specialized work permits of greater proficiency than the general work of the average practitioner. And some surgeons rely wholly upon such men to administer the anesthetic. But even then, with the most scrupulous care, fatal results have sometimes occurred.

The fact that we are recognizing some of the evils arising from our past methods causes one to think we are improving, even though it be slowly. If one of our dentists should be so unfortunate as to have a fatal case of anesthetic narcosis, and should be called up before the court to answer the questions of a sharp, shrewd lawyer, I fear the average man would not acquit himself with glory, judging from the answers received from candidates coming from different States of the Union to procure licenses to practice dentistry before the State Board of Illinois.

The natural conclusion would be that the subject of anesthetics has not been very thoroughly taught, or, rather, the seriousness of the subject has not made a very deep impression upon the minds of such candidates. Only a very few of them could tell how ether or chloroform are made, or from what they are manufactured, or the efficient treatment in case of an overdose of these drugs; and if this paper should arouse sufficient interest in this subject so that everyone who uses such powerful agents will go home determined

to brush up his knowledge of them, so that if called upon before a court of record he might show a familiarity with them under all conditions, this paper will not have been written in vain.

It is generally understood that the highest courts in the land have not passed upon the province of the dentist to administer anesthetics; and some time that will take place; and when it does it is to be hoped we shall be represented by some one who can do credit to himself and the profession of dentistry.

The only safe anesthetizer is the one who always appreciates the gravity of the case in hand, and who feels with each administration that he is taking his patient down very near to the gates of death, and that a little carelessness upon his part may deprive a fellow human being of life, and possibly plunge a whole community in sorrow.

No anesthetic should ever be given without a previous examination of the physical condition of the patient, and then, if the administration is considered advisable, all known restoratives and antidotes should be within easy reach.

It is said that the unexpected always happens, and if a fatality should occur, and the evidence at the coroner's inquest should reveal a lamentable lack of methods, appliances and restoratives, the court would certainly censure the defendant, and probably hold him over to the grand jury or criminal court for further action. Therefore, too great care can not be exercised in such cases.

That old trite saying that "Fools rush in where angels fear to tread," can be applied to the administration of anesthetics, fully as well as to any of the branches of the great healing art. Looking backward for a third of a century, to the time when the undergraduate of little education and experience was the anesthetist in most medical and dental schools, and to the meagre instruction given students on this subject, it would seem that the guardian angels must have been hovering around to prevent fatalities. It is a very responsible position for a man to administer a drug to a patient that will suspend animation for a more or less extended period, with the balance of the scales tipping to the death side. The custom of using the hypodermatic needle to inject unknown quantities of unknown drugs into the gums for local anesthesia is reprehensible. This method has now been employed a sufficient length of time to demonstrate the evil results of such practice. In the first place, it is bad enough to introduce drugs into the human system that we are familiar with, but how infinitely worse is it to do the same with a combination of unknown materials and unknown quantities of the same! We have all doubtless seen cases of serious injury to the jaws from such practice, as well as grave constitutional symptoms that were more or less permanent.

The introduction into the system of septic matter upon the hypodermatic needle in the hands of slovenly operators, and cheap advertising dental establishments, has become so apparent that something ought to be done about it in the interest of the general public's protection. But how to go about it, when such men are properly licensed by the authorities of the State is a delicate question, and one hard to solve.

The enormous increase in the use of the coal tar headache cure preparations that are having such a deleterious effect upon the heart's action of the users thereof calls for strenuous action upon our part in educating our patients to know the evils, so they may take due notice and govern themselves accordingly.

Acetanilid and its kindred preparations, if properly used, have a large field of usefulness, but, if abused, they become engines of mighty destruction.

Of course, there are times in our practice when whiskey or even some of the opium preparations or other sedatives, are invaluable, but too great reliance upon such drugs weakens the patient, both physically and mentally, and it behooves us to be on the alert and to know when to give and when to withhold these dangerous drugs.

Pain is an exalted sensation of a normal physiological process perverted, and the beneficence of pain as a warning is too well known to enlarge upon before such an audience as the Illinois State Dental Society. But the great demand for painless dentistry that we encounter every day is having a very pernicious effect upon many dentists, as well as the general public. And while a state of stoicism apparently devoid of sensation or sentiment is not to be desired, nevertheless, the person who can restrain his feelings under great stress and strain without the stupefying effect of narcotics or sedatives is in a much better condition than the one who has been weakened both physically and mentally by drugs that deaden the sensibilities and render inert one's real strength and stamina.

While cocaine has been a great blessing to mankind, it has also been a great curse, and is becoming more so every day. The facility with which the tooth pulp may be anesthetized and removed, and crown and bridge work substituted for well made fillings and partial plates, affords the dentist an opportunity to display his wonderful skill to the people, and at the same time to reap a rich financial harvest, so that the great majority of the profession have become crown and bridge work maniacs. And now the question arises, what will be the result of all these beautiful gold and porcelain crown and bridge work monuments? Will they stand? Do they stand long enough, commensurate with the labor, nervous strain and expense of their construction? Are the pulp canals always thoroughly treated and filled, so as to avoid future irritation and abscess? Are the bands always properly fitted, so as to avoid chronic gingivitis and recession of the gums, etc., etc.? Are we not ruthlessly destroying a great many pulps that might better be saved, because it is so very much easier and quicker than the conservative method? And in this wholesale pulp destruction, are we not doing our patients permanent harm while doing them temporary good?

I have seen so much injury to the gums, alveolar process and bone, resulting from hypodermatic injections, that I would prohibit the use of cocaine in my office if I thought the trouble arose from the use of cocaine *per se*. But I am of the opinion that the trouble frequently comes from septic matter carried into the tissues beyond by the needle rather than by the irritating properties of the drug

itself. A thoroughly aseptic needle may, and often does, carry infectious material from the mouth into the tissues, and thus cause serious trouble. It is a well known fact that infectious material in the mouth, and about the necks of the teeth, is often carried into the general system by the beaks of the forceps in extraction, causing serious trouble. It is also well known that cocaine is a very unreliable drug in its effects upon different individuals. But its injudicious, indiscriminate and improper use has doubtless caused a very large part of the trouble that has been blamed upon the drug itself.

In the early days of cocaine a large series of experiments were made upon some of the lower animals by one of the members of this Society, that has been of great value to all who use this drug on the human subject.

The one special point brought out in those experiments was that cocaine should always be administered after a full meal rather than with an empty stomach, as is done with the general anesthetics.

The continued use of cocaine does not cause that "familiarity which breeds contempt," but rather a wholesome respect for and fear of such a dangerous drug. In recapitulation allow me to sound a big note of warning: (1st) Do not become reckless and careless in the use of anesthetics; (2nd) do not use any preparation of drugs to produce local or general anesthesia that you are not familiar with; (3rd) also do not use any of the coal tar headache cure preparations or sedatives that you are not familiar with, as they are dangerous, dangerous, dangerous!

This article would not be complete without mentioning the subjects of coffee and tobacco. Statistics show that we consume more coffee per capita than any other people, and while we admit the stimulating properties of coffee, we realize the fact that overstimulation produces sedation, and that brain workers and people who live largely indoors do suffer more or less from this cause, and that dentists who have such careful and delicate work to do should be very abstemious in the use of coffee. And if anyone doubts the truthfulness of this statement, let him abstain from coffee for a period of a month and note the improved condition.

All the foregoing statements regarding the use or abuse of coffee will apply equally well to tobacco. The habitual user of tobacco who lives an indoor life will sooner or later, and usually sooner, notice a more or less impaired condition of the heart's action. The special point is this: If the above is true are we justified in using those things that militate against our general health and impair our usefulness? The public, who employs us to care for them, expect us to be at our best physically and mentally. The same as other drugs, what may be a small dose of caffeine or nicotine to one person, may be a large dose for another one. An old smoker has tersely said, "What a fool I am to smoke several cigars in an evening, and upon retiring feel my heart beating with such difficulty that it interferes with my slumbers; and then in the morning I have that dark brown taste in my mouth, and a dopy feeling nearly all day, that depresses me, and retards the action of

both my brain and body." I feel confident that a large part of this audience can corroborate the utterance of the old smoker.

#### DISCUSSION.

DR. M. L. HANAFORD (Rockford, Ill.): The universal dread of pain and the necessity for the infliction of more or less pain by the dentist in his operations, has caused untold suffering to the human race and the loss of thousands of teeth. We and our patients are wont sometimes to think that if only the element of pain could be eliminated from our operations, life would henceforth be a continual round of pleasure. We are often asked by our patients why has not some way been invented by which cavities in sensitive teeth could be excavated painlessly?—the implication being that the dentist is unsympathetic, if not indifferent, to suffering. They express surprise when told that everything possible is being done in that direction that can be done safely, and the hope expressed that some day truly painless dentistry will be an accomplished fact. It is said in lines of trade that a demand brings a supply, and in our profession, which some way is part trade, the argument is that a like supply should follow the universal demand. All over the land unscrupulous charlatans are trading upon the dread and fears of the people. New systems of painless dentistry are advertised on fences and dead walls, catching the eye and purse of the unwary; and the credulous people flock to those charlatans because they are told something they want to believe, that good dentistry can be done painlessly. Since this is true, it is small wonder that the use of anesthetics is being pushed to the limit. Dentists are human, some of the people to the contrary notwithstanding, and if they can substitute smiles for groans and compliments for execrations, the temptation is great to overstep the bounds of caution. Recognizing the above as universal traits of human nature, the paper to which we have just listened comes as a timely warning to us. It requires courage to refuse an anesthetic. You may be thought timid or incompetent or unfeeling, you may lose a patient or a family, so you are tempted to take the chance. Remember, it is a chance and responsibility which no one can divide with you. Can you afford it? As the essayist well says, suppose you should have a fatal result, and should be called before the coroner, what would your defense be,—that your patient dreaded the momentary pain of tooth extraction, and you hated to refuse the anesthetic? How many dentists could stand before what I would imagine the first question asked him—namely, Are you qualified, and did you examine the patient as to his fitness to take an anesthetic, or had you all the recognized means of restoration at hand and did you make use of them? As a general anesthetic, nitrous oxide gas probably ranks first in point of safety, but as generally used there are disagreeable features about it, notably more or less struggling and the shortness of the anaesthetic period. This has led to the large use of cocaine in various combinations, by hypodermic injections. The enormous consumption of these preparations by so-called dental parlors and careless operators must have been the cause of untold injury, for we know that careful men often meet with accidents of more or less gravity. It is especially fitting that a note of warning should come at this

time from the man who gave the profession the first scientific studies of the action of cocaine on man and the lower animals. Many of us remember the paper which Dr. Pruyn read at the twenty-fifth anniversary meeting of the Chicago Dental Society, in which he described in detail experiments on a large number of dogs to whom had been administered various doses of cocaine. The note of warning, even then, was not wanting, and the opinion was expressed that no one should use the drug who was not familiar with the symptoms of poisoning, and even had witnessed some deaths from its use. The use of opium as an antidote was recommended, and I believe that stands to-day as correct practice. As I said before, I consider this paper especially timely in view of the presence of so many young men. The ability to successfully use anesthetics has been thought, and doubtless is, a practice builder. Young men are supposed to be in the practice-building business. The lesson of the paper to such is, I take it, first, see that you are thoroughly qualified, if you would use an anaesthetic extensively, and that means ability to select proper subjects, as well as how to use the agents. Second, to hold strongly to the safe side of the equation.

DR. E. F. HAZELL (Springfield) : I want to congratulate Dr. Pruyn for the good paper he has given us, and the Society on having in its membership one who is able to take up so many different topics and speak in an authoritative way. The paper is calculated to set us all to thinking about how recklessly we sometimes use the different agents at our command, and especially those which should be used cautiously. What should we do in case of an accident? A death may take place in the office of any one of us, and as Dr. Pruyn has said, unless we are able to answer satisfactorily the questions of a good lawyer, the courts may deal with us not entirely to our liking. The cry of the times for "painless dentistry" by so many of the laity and some few of the profession is hard to meet. And I doubt seriously if we will ever be able to do all our operations in an absolutely painless manner. We need pain as a warning, for instance, of our near approach to an abnormally large pulp. It has been a wonder to me that much more trouble than we have ever seen has not resulted from the promiscuous use of the hypodermic injection of Tom, Dick and Harry's local anesthetic. We do not know what the ingredients of these nostrums are, and are absolutely in the dark as to what has been injected. I have seen toxic symptoms manifested from a very small quantity of cocaine, and naturally have become guarded in its use.

DR. H. W. McMILLAN (Roseville) : Dr. Pruyn has given us an excellent paper. Its keynote is conservatism. It calls us to the serious study of the subjects considered. Anesthetics, sedatives and narcotics are dangerous unless properly used, and one who employs them should first of all familiarize himself with their composition, their nature, their limitations, the indications for their use and their antidotes. We should gain scientific knowledge of whatever we use, and act in harmony with it. A whole sermon could be preached upon the evil resulting from conducting our lives out of harmony with scientific principles. Science is exact knowledge classified, and as scientific dentists we should possess

the exact knowledge of the proper uses and the limitations of the drugs mentioned in this paper. Dentists should not cease to grow in knowledge of these and allied subjects, and a complete and well selected dental library should be in every office. There are times during office hours when some patient has failed to come, which can be very profitably spent with the books on the various subjects of dentistry. Anesthetics, sedatives and narcotics are of great interest to the dentist. Anesthetics are general and local. Regarding their use dental opinion is divided. Some prefer general anaesthesia, others local, others both, and some others neither. Personally, I like to use both general and local, according to the indications. I have secured good results from somnoform and from nitrous oxide, and also from cocaine. I use sedatives to a limited extent, believing drugging the patient should be done as little as possible. If the dentist can make his patient know that the pain will be just as slight as is consistent with thorough operating, he has done much to control that patient without drugs of any kind. If the dentist can persuade his patient to come at regular intervals for the examination and care of the teeth, there would be much less need of drugs, and consequently less misuse of them. There would also be much less bridge work and its abuse and misuse. Cheap dentistry, cheap extractions, cheap plates and the whole catalogue of cheap things in the dental line are responsible for much of the evil mentioned in this paper. A man who knows he is cheap does not take a pride in his knowledge. He works from the neck down, and is yet a tradesman, while he who works with his head as well as his hands—he is the professional dentist, and to tell him he is cheap is to insult him. If people had to pay their dentist one dollar for each tooth extracted, and to the United States government a like amount for a fund with which to educate them to the value of the tooth they have lost, we would soon cease to deserve the title of "tooth pullers," and the name dentist would be synonymous with tooth saver. The United States government recognizes the value of teeth in the selection or rejection of its soldiers. It derives revenue from liquors and tobaccos, both acknowledged curses, and I would have every patient who has a permanent tooth extracted buy a revenue stamp also. Tooth extraction is a curse and should be taxed. Cocaine should not be injected around an abscessed tooth, and when it is used the mucous membrane should be cleansed with antiseptics and the needle should be passed through a flame. I believe dentists would better serve their patients to never use coffee, tobacco or intoxicants. None of these are necessary, and may lead to serious results. Our patients should receive our best services, and this can not be given while using these things. I take exception to the saying that "the unexpected always happens," and suggest that "the unexpected sometimes happens," which is more near to the truth. We should, however, be ready to act wisely when the unexpected does happen. I am glad dentistry is a growing science and that greater things are expected of us each year. We should increase our knowledge of these subjects and eliminate our errors of the past. This can be done by scientific comparative tests and by clinical experience.

(To be continued.)



# Dominion Dental Journal

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## DISSOLUTION OF THE TORONTO DENTAL SOCIETY AND ORGANIZATION UNDER A NEW CONSTITUTION.

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Interest in the Toronto Dental Society had been lagging for years, until last year the attendance became so small that it was decided to appoint a committee of Drs. McLaughlin and Webster, with power to add to their number, to look into the matter. The committee reported that the only way out of the difficulty was to get free from the cumbersome constitution of the Society. To do this dissolution was necessary. Accordingly the President, Dr. Wunder, called a special meeting, and at this meeting notice was given that at the regular meeting in October a vote would be taken by the members on the question of dissolution. At a meeting on Tuesday, October 2nd, the Society was formally dissolved. On the same evening all the dentists of Toronto were called to a meeting to organize a new Society. The call did not bring as many together as was expected, but enough met to organize a Society on a liberal basis, having some of the features of a social club. The constitution which

follows provides for a large membership, and for the attendance of those who are not members. The two main features of the new organization are the meetings at a hotel or restaurant, when supper will be served, and the arrangement for the best dental talent to be found on the continent. It is expected that Chicago, Detroit, Buffalo, and New York will be drawn on to assist in the programme of the year.

The officers of this year were elected by a mailed ballot, the same as that provided for in the constitution. Members and others will find a notice of the meetings and the programme in the daily papers.

#### THE OFFICERS ELECT.

President—J. B. Willmott.

First Vice-President—R. G. McLaughlan.

Second Vice-President—A. J. McDonagh.

Secretary—C. A. Kennedy.

Treasurer—Harold Clarkson.

Auditors—W. E. Willmott,\*W. C. Trotter.

The first meeting of the Society will be held at the St. Charles Restaurant, Tuesday, November 13th at 6.15, when Dr. Land, of Detroit, Mich., will be the guest of the evening. The subject of Dr. Land's address will be: "A Practical and Reliable Method of Artificial Enamelling of Defective Natural Teeth without the Necessity of Pulp Devitalization." The officers feel pleased that they have secured Dr. Land for the first meeting. Wherever porcelain is spoken of, the name of Dr. Land is always associated with it, because he was really the pioneer in porcelain art as applied to dentistry. Dr. Land is especially known to us because Canada is the land of his birth.

The second meeting of the Society will be held on the evening of the second Tuesday in December, when Dr. George Wilson, of Cleveland, will present the subject of the responsibilities the prosthetist takes when he extracts a patient's teeth and undertakes to conduct the case without loss of form and facial expression until a denture is inserted which may be considered more or less permanent. This subject in the hands of Dr. Wilson, who has been acknowledged as a leader in prosthetic art, will make a very instructive evening's session.

The officers hope to secure just as noted talent for the remainder of the meetings. Arrangements are not yet completed for a short clinic at the close of each paper. One meeting will be devoted to the discussion of domestic affairs in dentistry, such as the relation of the profession to the Board, to education, to the University, to the Dominion Dental Council, and what the Society ought to do in helping to direct the affairs of the profession.

The profession and members will note that according to the constitution the officers conduct the whole business of the Society, so do not be alarmed or feel slighted if the programme is pro-

ceeded with at once without either minutes of last meeting or reports of officers, or your vote to adjourn. This is a business organization.

#### CONSTITUTION.

Sec. 1. *Name*.—The name of the Society shall be the Toronto Dental Society.

Sec. 2. *Objects*.—To further the interests of the profession of dentistry.

Sec. 3. *Members*.—Any ethical practitioner of dentistry in the City of Toronto and its suburbs.

Sec. 4. *Officers*.—President, First Vice-President, Second Vice-President, Secretary, Treasurer.

Sec. 5. *Election of Officers and Auditors*.—The officers and auditors shall be elected by the Hare Spence system of voting. The Secretary shall send to the members immediately after the last meeting but one in each society year, a ballot containing the names of all the members.

The members shall mark their choices on this ballot and return it according to directions. The names of the officers and auditors elect shall be announced at the last meeting in each society year.

The scrutineers shall consist of the secretary and two auditors.

Sec. 6. *Duties of Officers*.—To take office immediately at the close of the society year.

To conduct the whole business of the Society and submit a report at the last meeting of the Society year.

The society year begins May 1st.

Sec. 7. *Meetings*.—At least five meetings in each year—October, November, December, January, February or March—at such time and place as the officers may decide.

Sec. 8. *Fees*.—The annual fee shall be five dollars.

Any ethical practitioner in the City of Toronto not a member may attend any of the meetings by paying the expenses of the meetings he attends. The expense shall be decided by the officers. The secretary must be communicated with at least six hours before the meeting.

Members may invite guests who are not dentists resident in Toronto by communicating with the secretary at least six hours before the meeting and paying the costs of the supper.

Sec. 9. *Obligations of Members*.—Members are expected to take such a part in the meetings as the officers may reasonably request.

The membership is under the control of the officers.

Every action of the officers is subject to appeal to the Society.

Sec. 10.—This constitution may be amended or altered at any meeting by a two-thirds vote of the members present.

notice of such amendment or alteration having been given at a previous meeting or by a unanimous vote of those present at a regular meeting.

Sec. 11.—This Society may be dissolved at any time by a three-fourths vote of the members present, written notice of such proposed dissolution having been given by five members at the previous meeting, and notice of such motion having been sent to all active members in good standing.

The property of this Society shall be disposed of as the Society may direct.

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### OPENING OF COLLEGE.

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The Royal College of Dental Surgeons opened October 1st, 1906, at 5 p.m. The Dean, Dr. J. B. Willmott, delivered the opening letter. The attendance is 196. The course extends over four years of seven months in each year.

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### LAVAL UNIVERSITY SCHOOL OF DENTAL SURGERY.

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The third session was opened on October 1st. The school being in repairs and the rooms unfinished, there was no official session.

The school has increased its space by half more rooms, this giving three new laboratories for dental technique, porcelain and histology and bacteriology. Special rooms have also been provided for the library and museum. A large sum of money will be spent this year in getting new equipment.

Thirty-five students are actually registered, four of which are Europeans, viz.: Dr. Schavoir, of Paris; A. Schavoir, of Valence; F. Smadja, of Oran, Algeria, and N. Boyadjieff, of Sofia, Bulgaria.

The Laval University intends to build an annex next spring, and then the dental school will again double the space used at present.

### Editorial Notes

Dr. Foster of Guelph died suddenly October 25th.

Do dentists reply to all their correspondence? Ask the secretaries of dental societies.

At the December meeting of the Toronto Dental Society, Dr. Geo. Wilson, of Cleveland, will be the essayist of the evening.

Dr. Land, of Detroit, will be the guest of the Toronto Dental Society at the St. Charles' Restaurant, November 13th, at 6.15.

The Dominion Dental Council of Canada will hold a supplemental examination, beginning December 3rd, 1906, at such places as there are candidates.

The following demonstrators have been appointed for the session of the Royal College Dental Surgeons: R. M. Chambers, R. M. Graham, A. E. Proctor, — Risdon, B. E. Brownlee, A. W. Muir.

At the annual meeting of the Quebec Dental Association a resolution was passed directing the Board to obtain such Legislation as will permit the Province to become a member of the Dominion Dental Council.

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### Proceedings of Dental Societies.

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#### NATIONAL DENTAL ASSOCIATION.

At the tenth annual session of the National Dental Association, held at Atlanta, Georgia, September 18-21, 1906, the following officers were elected for the ensuing year:

President—A. H. Peck, Chicago, Ill.

Vice-President for West—D. J. McMillen, Kansas City, Mo.

Vice-President for East—Geo. E. Hunt, Indianapolis, Ind.

Vice-President for South—Geo. S. Vann, Gadsden, Ala.

Rec. Sec.—Chas. S. Butler, Buffalo, N.Y.

Cor. Sec.—Burton Lee Thorpe, St. Louis, Mo.

Treasurer—A. R. Melendy, Knoxville, Tenn.

Executive Committee—C. M. Wark, Ottawa, Iowa; V. H. Crawford, Nashville, Tenn.; Chas. McManus, Hartford, Conn.; F. O. Hetrick, Ottawa, Kansas; B. Holly Smith, Baltimore, Maryland.

Executive Committee—C. M. Wark, Ottuwa, Iowa; V. H. Jackson, New York City, N.Y.; Thos. P. Hinman, Atlanta, Ga.

The next meeting will be held in Minneapolis, July 30th, 1907.

BURTON LEE THORPE,  
*Corresponding Secretary.*

# Dominion Dental Journal

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## Original Communications

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### SOME DEPLORABLE RESULTS FROM THE USE OF SEPTIC INSTRUMENTS.

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BY LENOX CURTIS, M.D., NEW YORK.  
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Not infrequently I have had presented to me for treatment, necrosis of the jaws and other diseased conditions of the adjacent parts, which were the result of either the use of septic instruments, or the application of septic, obtunding substances applied in the process of extracting teeth. Some of these cases were of a very serious character; two of them terminated fatally. The majority of them, however, yielded to treatment after they came into my hands.

I shall present some of these cases, with all the details relating to them:

Mr. V., aged 69, came to me in 1893, with the following history: Up to that time he had never had occasion to consult a physician. Two months previous, an upper left molar, which had been in a diseased condition, began to ache badly, and he decided to have it extracted. As the dentist picked up the forceps Mr. V. saw that they were covered with fresh blood. He grabbed the dentist's hand to prevent him from using the bloody instrument, but the dentist was too strong and too quick for him. In an instant the tooth was out, and his indignant remonstrance against the use of an instrument in that condition was uttered too late. A few days after the operation, the gum surrounding the socket of the extracted tooth became swollen and painful. The inflammation and pain increased to such a degree that within ten days, notwithstanding the indignation he

had felt towards the dentist at the time of extraction, he went to him for relief. The dentist applied some remedies to the affected parts, but without avail. The inflammation extended rapidly to the surrounding parts, the pain increased, and his general health began to fail. He lost his appetite entirely, and at the time he consulted me, said he had not taken a mouthful of any kind of nourishment but water for two weeks. On examination I found the entire jaw, back of the cuspid, involved in an epithelioma and the antrum fully opened. The microscope verified the diagnosis. I immediately resected all of the maxillary bone except the floor of the orbit, back of the central incisor, and a part of the molar process, together with a large portion of the inside of the cheek opposite the bicuspids and molars. The operation was confined to the inside of the mouth, the skin and temporal muscles not being disturbed. The patient made an uninterrupted recovery without the slightest deformity of the face. An artificial jaw, with teeth attached, was adjusted, and the patient was discharged from treatment well and happy within a month from the date of the operation. I received a report from him four years afterwards, in which he stated that there had been no return of the disease, and he had entirely recovered his health. If we did not have these evidences we would scarcely believe it possible that a man educated at one of our Dental Colleges would conduct his business in such a filthy manner. Only think of the catalogue of avoidable consequences he inflicted upon that patient. The painful and exceedingly dangerous illness which would have terminated fatally had it not been for the success of the timely surgical operation, the expense, loss of time, the inconvenience of having to wear an artificial jaw, and the mental strain which cannot be estimated, all caused by the criminal carelessness of dirty and slovenly work.

Miss R., aged 12—On February, 1905, Miss R. complained for the first time of pain in her teeth. She was taken to a dentist, who examined them and said he could not locate a cause for her complaint. As described by the patient, the pain seemed to be in the partially erupted lower right twelfth molar, in which there was a very small cavity. The child's suffering was severe, but the dentist said that, as he could find no cause for the pain, the only way he knew to stop it was to extract the tooth in which the pain seemed to be. The father finally consented to have this done. A solution was injected into the gum, which the dentist said would make the extraction painless. Increased suffering immediately followed the injection, and the child complained bitterly. As soon as she could be controlled the tooth was extracted, and, as the dentist predicted, without pain. Numbness of the right side of the jaw and lips was then noticed, and the skin over the mental foramen turned dark within ten minutes after the fluid had been injected. The pain,

which by this time had extended to the entire right side of the face, had greatly increased, and the child and parents alike were nearly crazed with fear and anxiety.

The dentist was implored to do something to check the pain, but he said he had done all he could and advised taking the girl home. Within twenty minutes from the time the injection was made, the patient was in her home, and her mother was telephoning to the dentist to come and do something to stop the pain, which was constantly growing worse. The dentist replied, "I have done all I can do, and it is now up to your physician to relieve her." By this time the right side of the face was considerably swollen, and the area of the discolored skin had increased to the size of a silver dollar. By means of narcotics the suffering was partially relieved. In a few hours, however, the ecchymosed area was black, and the entire right side of the head was badly swollen and the right eye closed.

The swelling increased so rapidly that by the following morning the entire head was swollen to nearly twice the natural size, both eyes and the jaws closed tightly, and there was a free flow of pus from the mouth. Septicemia was pronounced. Not long after the body was covered with a suppurating eruption and life despaired of, for the patient appeared to be a physical and nervous wreck. All sorts of applications were applied to the head and face for relief, but Antiphlogistine appeared to be the most effective. Finally, signs of general improvement appeared and the patient so far recovered that, at the end of four months she was able to be taken to the seashore. Little, if any, improvement, however, had occurred in the mouth. All the lower teeth were very loose, the gums were badly ulcerated, the jaw bone was necrosed, pus discharged constantly, and the odor of the breath was sickening. Six weeks spent at this resort, under the care of Dr. Johnson, did much towards restoring her strength. The mouth was treated daily, and finally the patient was in a condition to return to the city to consult me.

*Examination.*—Child exceedingly nervous and cried from fear of being hurt. Face covered with suppurating pimples, and had a putty appearance. Right side noticeably swollen. Chin drawn slightly to the right. Median line was the width of one tooth to the right. Breath offensive. Lips swollen and exceedingly sensitive to the touch. Chin numb and boggy on pressure. Could open mouth about half the normal width. All the teeth of the lower jaw were loose, especially those to the right of the left cuspid, and were very painful to the touch. All of the soft tissue on the external surface of the jaw from back of the right cuspid to the ramus was absent, and that over the front teeth was badly ulcerated, while to the left, back to the second molar, it was of a deep purple color and edematous. The periosteum and external plate of the alveolar process, including the inter-



dental process and bone above the dental canal, extending from the left second molar to the ramus on the right side, was necrosed, and much of the back of the right cuspid had already sloughed away, exposing the roots of the teeth.

The periosteum to the left of the left cuspid was intact, but most of the bone beneath it on buccal surface was necrosed and surrounded by a mass of granulations and pus. The second bicuspid on the right side was held only at its roots by the periosteum and gum, and the apex of the root could be raised to touch the edge of the lip. From the dead bone, everywhere, pus exuded. The pulse, temperature and general physical condition showed the long strain and suffering the patient had undergone.

The necessity for immediate operation was self-evident. Dr. Van Etten, the family physician, who originally cared for the patient, gave the anesthetic. I appreciated the importance of saving all of the teeth, especially the wisdom tooth, which, as yet, was only in the formative stage. I realized that should the anterior grinding teeth be lost, this tooth, if it could be saved and developed, might serve as an anchorage for a bridge.

The teeth were securely splinted together by means of floss silk. With the dental engine I burred away the necrosed bone. Great care was exercised in removing the mass of dead bone from around the teeth, especially around the gum of the wisdom tooth. Finally, however, it was discovered deep in the jaw, like a pearl in a ruby setting. Before further proceeding, this premature infant was most delicately dressed with gauze, and watched with great care throughout its development.

The gum extending to the left second molar was laid open and the mass of necrotic tissue beneath it was burred and curetted away. The roots of all teeth to the right of the left cuspid were denuded their entire length, except the right cuspid and first molar, to which a small area of the sockets on the lingual surface were attached. Most of the cancellous substance of the bone lying between the ramus and mental foramen was dead, little more than a shell remaining. The teeth, therefore, to the right of the left cuspid were held only by the periosteal and gum attachment, except on the lingual aspect of the cuspids, where there was a fair attachment of bone, which served as a brace to retain the position of all the teeth.

For two weeks I watched and dressed the wound with great care, after which time the patient was returned to Dr. Johnson, of Asbury Park, who continued my methods of dressing. It was not until November, four months following the operation, that I again saw the case. Her family physician was again in charge. It was most gratifying to see the manner in which the bone had been reproduced, and the degree of firmness of the teeth. The left side, back of the cuspid, was well and showed

little signs of the former trouble. By this time, the wisdom tooth had pushed its way almost into position, but the enamel was poorly calcified, and to prevent its destruction by decay, it was treated to baths of silver nitrate. The process and soft tissue about it had been reproduced.

The tooth is now fully erupted and has nearly filled the place where the twelfth year molar stood. The pulp in the sixth year molar was yet vital, but in all the rest of the teeth, to the right of the left cuspid, the pulps were dead, and the roots had begun to decay. The front teeth were fairly firm, but those back of them required a permanent splint. The wound has ceased granulating, and from time to time since, I have been called to freshen it so as to re-establish the granulation. This, as you may know, is not usually an easy matter. Not until two months ago did Dr. Tracy finish removing the pulps and filling the canals so that I could amputate the lower third of the roots of the incisors, cuspids and bicuspid. By this time the teeth had become sufficiently firm to allow the removal of the splint so that the patient has full use of them. Most of the alveolar process and most of the gum tissue has already been reproduced, covering the roots and giving the mouth a natural appearance. Should any part of the roots remain uncovered I will turn up a flap of the mucous membrane, where it joins the process, to cover and protect them from decay. This is an unusual case, demonstrating what may be accomplished where skill and conservative methods are employed. The patient has developed rapidly during the past year, and her health is so far restored that she hopes to re-enter school this fall.

This case presents an interesting field for speculation as to what really caused the conditions described. Was it due to a septic hypodermic needle, or to some infectious condition of the solution itself? If to the latter, had the solution become septic from frequent contact with the dirty point of a syringe, or from its own decomposition? Or, if infection from either of these sources is denied, could the trouble have arisen, because the injection happened to be made directly into a vessel which enters the inferior dental canal? I have heard of several similar cases of infection which have followed extractions made by the dentist who removed the tooth in this case.

Mr. H., a broker, aged 26, was referred to me by his physician. He was immaculately clean in his personal appearance, and had every indication of being remarkably healthy. He had recently called upon his dentist to have his teeth examined, and, after a careful inspection, the dentist had advised him to have both of the lower wisdom teeth removed, on account of their abnormal position, adding, however, that on account of their malposition, it would be a difficult matter to extract them.

Although the reasons for their removal did not convince Mr. H. of the necessity of the operation, enough was said to satisfy him that it was a matter of importance, and that he ought to consult some higher authority in relation to it. For that purpose he came to me. When I examined his mouth, I found it as clean and healthy as he appeared to be. There was not even a speck of calculus or caries, and not the slightest manifestation of disease, except a decayed spot upon the distal surfaces of each of the lower second molars at the gingival margins, where the impacted teeth butted against them, thus providing a place for food to lodge.

He asked me if the extraction of those teeth would be as difficult as his dentist had intimated. When I answered in the affirmative, he asked me to explain to him, specifically, why an ordinary dental extraction would not be all that was necessary, and, if not, what other methods would have to be employed. I then explained to him that in order to retain the second molars and have the remaining teeth serviceable, it would be necessary to remove the gum and bone around both of the wisdom teeth, so that they could be readily pried out without disturbing the molars immediately in front of them. He thoroughly understood, and heartily approved of the method I suggested, and inquired the cost of the operation and subsequent treatment. I told him that my fee for the operation on both of the wisdom teeth and subsequent treatment would be \$150, which he agreed to pay. Accordingly an appointment was made for the following day, which appointment, however, he did not keep.

About two weeks after this interview I met the physician who had sent him to me, and from him I learned the subsequent history of the case, which was as follows:

After his visit to me he went back to his dentist, and told him about his agreement with me. The dentist angrily replied, "Don't you make a d— fool of yourself by paying such an exorbitant fee ; go to Dr. — (mentioning the name of a professional extractor), who won't charge you more than \$5." Mr. H. took this advice, but owing to the severity of the operation only one of the malposed teeth was removed, and, as he left the office, boasted that he had saved \$145.

When he went to the extractor's office he was accompanied by his dentist, who designated which teeth were to be removed. Mr. H. was placed under the influence of an anesthetic, and the extractor made several ineffectual attempts to dislodge the right wisdom tooth. Finally he concluded that he would have to extract the right second molar also to enable him to reach the wisdom tooth. This he did. On account of the great length of time that had been consumed in the operation, and the general disturbance of the system caused by it, it was concluded to post-

pone the extraction of the left wisdom tooth. In the course of the operation the gum tissue and the alveolar process were considerably lacerated, and on the following morning the patient's face was very much swollen, the jaws were locked, and pus was discharging from the mouth.

The patient was suffering very severely, but his physician thought it was nothing very serious, and that the pain would soon subside. Instead of subsiding, the inflammation steadily increased. Eminent physicians and a general surgeon were called in, but the disease progressed rapidly, in spite of all they could do. Several operations were performed, but they were all of no avail.

About a month from the time of the extraction the patient succumbed to the disease. The parents of the young man sued the extractor for malpractice and, I believe, collected damages.

What, in your opinion, was the cause of the severe inflammation in this case? I think it could not have originated in the mouth itself, for it harbored no disease, or condition that would cause the slightest irritation, for it was one of the cleanest mouths I ever saw. While I have no definite knowledge of the condition of the instruments used by the extractor, all the symptoms presented by the case in all of its stages, point to its being a case of instrumental infection.

Mrs. F., aged 44.—Her busy life had for some years caused her to neglect to have several devitalized teeth in her upper left jaw properly cared for, although on several occasions following exposure while driving, her face had temporarily swelled. She was finally induced to have these teeth extracted by one who made the extraction of teeth a specialty.

At this time the swelling in the face was more persistent, and when the teeth were extracted, pus flowed from their sockets. An abscess below the molar bone was lanced, and thinking the antrum was affected it was opened, but it contained no pus.

Instead of the improvement which usually follows such treatment, the swelling and general symptoms increased. The family physician took charge of the case, and true to an old time and most destructive custom, applied poultices. Under this pus promoting treatment the disease extended so that when I saw the case, ten days later, the left side of the face was so extremely swollen that the left eye was closed, and the inflammation had extended to the right side of the face, nearly closing the eye on this side. The pain was excessive. All signs of septicemia were

present. Over the entire left side of the face, including the temporal region of the head, were multiple abscesses, some ready to break through the skin. The bone everywhere was soft, as if decalcified, and gave way to slight pressure of my instrument. The remaining left incisors and cuspids were loose, as well as a lower molar on this side.

I could not but conclude that this condition had been caused by the use of septic instruments when the teeth were extracted. The case looked hopeless, and it was no easy thing for me to refrain from condemning the methods employed for the relief of the patient.

I removed the loose teeth and dead bone, curetted and cleansed the pus sacs, packed the wounds with gauze, and left the case in as aseptic a condition as possible, first making suggestions which might assist in recovery, such as cold applications to the head and face, asafetida, cathartics given daily, nourishment, mouth washes, etc.

The patient quickly recovered from the anesthetic. Three days later I saw the case again, and was surprised to learn that there had been no movement of the bowels for two weeks, and that persistent vomiting had prevailed for the past three days. I repeated the importance of giving Epsom salts and enemas. The edema had increased so that the right side of the face and the left side of head were considerably more involved. The removal of the dressing showed the wounds in good condition and practically free from pus. Several other small abscesses had developed. These were opened and treated the same as the others had been. The pus was degenerated and almost black.

About a week later I was again asked to see the case, but having undergone an operation upon myself that day I was unable to respond.

I learned later that two other surgeons were called, that the disease extended until it involved the entire head, and that the patient died in about four weeks following infection.

Not long after this I successfully treated another patient of the same dentist, who was likewise suffering from infection, caused, apparently, by the use of septic forceps as the patient said they were blood-stained when used, and that he had rebuked the dentist for using them in that condition. This patient also told me of the dirty and careless manner in which this dentist handled and cared for his instruments.

In view of the fact that the cases cited are merely representative of the many which I am frequently called upon to treat and presumably as frequently seen in the practice of others, should it not be incumbent upon all Boards of Health to visit every dental office and institution and satisfy themselves that all instruments, appliances, and office appointments are kept in a sanitary condition.

Could this convention perform a greater service than to pass a resolution in favor of this important matter, and appoint a committee to secure appropriate legislation to this end?

7 West 58th Street, New York.

#### DISCUSSION.

By Dr. A. E. WEBSTER, M.D., D.D.S., L.D.S., Toronto.

Mr. President and Gentlemen,—Congratulations are due the association and also the essayist for the choice of the subject discussed here to-day. It is a subject which has the power to either make or mar the reputation of the profession of dentistry. If we do not practise aseptic surgery we can make no claim to a knowledge of modern science. Nor can we make any claim to even being moderately educated. The laity are aware of the dangers of infection. And how can we make claim to belonging to a scientific profession if we do not measure up to the knowledge of the laity, much less to the requirements of a scientific profession?

I must confess that the profession of dentistry has gained the reputation, either rightly or wrongly, of being unclean in its surgical work. Our patients talk about it, physicians and surgeons talk about it, and we ourselves talk about it. Is it not time that dentists awaken to the fact that this blot on our reputation must be removed before we aim at anything else? What right has a dentist to even think himself educated, who does not and who is not capable of practising aseptic surgery? It takes care and attention to keep a dental office even moderately clean, not to mention aseptic. There are young men graduating every year who have had the advantages of lectures on bacteriology and instruction in laboratory work who go out to practise and maintain what might be called a nuisance. Dental colleges are often to blame because they do not insist upon their students practising habits of cleanliness both of person and equipment, during their whole college course. Demonstrations of aseptic surgery must be made over and over again before the details can be grasped.

While we have, in the minds of many, remained dirty in the presence of modern scientific knowledge, yet there are many dentists who are absolutely aseptic in all their work. Such men have grasped what it means to be perfect in technique. Not every one who says the dentist is unclean knows what it means to be aseptic, and not every physician who says his patient was infected by unclean instruments in a dental operation can verify his statements. It is rather a habit of both the laity and physicians to lay any infection they or their patients may have to the dentist, even if he be ever so clean. The dentist extracts a root about which there is an infection.

and because the pain, temperature and swelling do not immediately subside the patient concludes that he has been infected by the dental instruments, and at once calls a physician, who either allows the patient to go on thinking that he has been infected by the dentist without correction, or says that such is the case. Now, gentlemen, nothing could be more unreliable and more unscientific than such statements. I do not wish to minimize one iota the possibility of infection from dental instruments, but I do wish to call the attention of this audience to the fact that such loose statements should not go unchallenged. Take the case just cited. The extraction of a root does not necessarily cure an infection beyond it only in so far as it affords drainage. It does not destroy the infection. It was there before the patient saw the dentist, and how can he be accused of causing it? No dentist can be reasonably accused of causing an infection from his instruments unless a similar infection, with similar manifestations, have been found in a patient he had previously operated for, and the organisms were found on his instruments immediately previous to the operation, and that the patient had not these organisms in his mouth before that time, and had them afterwards, and these organisms were again identified. "This is Koch's law," and accepted by all bacteriologists, pathologists and surgeons. Compare this test with the statement that "the dentist extracted the patient's tooth, his face afterwards swelled, therefore, the dentist used unclean instruments." No more unscientific or absurd statement could be made. I have seen and treated scores of such cases, and in no case was the statement justifiable, that the dentist caused the infection by unclean instruments. All that could be said was that the dentist was an extractor and not a dental surgeon. Instead of washing out and perhaps curetting the abscess cavity after the operation the infection was allowed to go on undisturbed, even though the tooth was removed.

How far do the cases cited by the essayist comply with Koch's law? We are compelled to say they do not comply at all. In no case is the statement justifiable that the condition following was caused by unclean instruments, although in one or two cases there is presumptive evidence.

In one case the patient applied for the extraction of a diseased tooth which had been paining. We presume there was an incipient abscess, but more likely there was a carcinoma which was afterwards found. The essayist says that he removed the superior maxillary bone from this patient, because of a carcinoma which the dentist had infected the patient with from an unclean instrument. Is a carcinoma infectious? There would have to be more evidence than given in this case to prove it. He does not even say that the dentist had previously extracted for a carcinomatous patient.

Professor Gaylord, the strongest advocate of the infectious character of cancer, is not satisfied with much stronger evidence than this. Then, again, does a carcinoma in a patient 69 years of age grow to such proportions in ten days? Pathologists have not recorded such activity in these neoplasms. It is quite reasonable to suppose that this patient had a carcinoma developing in the sup. max. which was causing pain, as they usually do under such circumstances. He applied to the dentist who extracted a tooth to which his attention was directed by the patient. Disturbance in many of these affections only causes them to take on new activity, and the newly exposed surfaces perhaps became infected from the mouth, the two causes together increased the pain and swelling, and a diagnosis of carcinoma was then possible. I can see no reason for saying that the dentist caused the infection of the parts with either carcinoma or pus organisms.

Case two is a deplorable one, but not infrequent in the practises of injectors of nosterum, and I might include in this, injectors of peroxide of hydrogen. I have been so situated for the past ten or twelve years that many of these cases have come under my notice. But in no case was I justified in saying that the dentist had used unclean instruments or infected drugs. Because some of the worst were caused by the injection of antiseptic solutions and peroxide of hydrogen. It is surely a reasonable explanation to say that either by pressure the circulation is cut off or the poisonous action of the drug destroyed the vitality of the tissues which became an easy prey to the ordinary pus organisms of the mouth. The operator is hardly less guilty than if he had used unclean instruments, because he should know better than to force any drug into the tissues until the circulation is cut off or cause it to be poisoned. Two deaths have been recently reported in England from the injection of too much anæsthetic causing death of the tissues of the mouth, which later became infected, resulting in the death of the patients. Case number three is similar to the others in want of definite evidence of infection by the operator. Because the mouth looked clean does not mean that it is surgically clean. There is not a person in this room in whose mouth pathogenic organisms cannot be found. And all that is necessary to produce an infection of the mouth is to reduce the resistance of the tissues. This is readily done by the wounding necessary during an operation, as just described. The cause of the severe inflammation in this case was undoubtedly a pyrogenic infection, but from where is unknown. Most likely from the patient's own mouth. The only reason for the court assigning damages in this case could be for want of skill in the operator, because there is no evidence given by the essayist which should convict him. A



similar case of damages is reported from Australia, but the defence was so weak that the court could hardly do otherwise.

Case four is, indeed, a sad one, but why was the essayist compelled to conclude that the infection was due to septic instruments? When the patient's face was swollen from an inflammation in several teeth before she applied to the dentist to have them extracted, would it not be reasonable to think that the extraction of the teeth opened up a large raw surface to absorption or infection from the organisms which were already abundant in the seat of operation?

It would not be unreasonable to conclude that the result would have been the same if the teeth had not been extracted at all. Especially in such a case as this, where the patient's bowels had not moved for two weeks. And there was evidence of auto-intoxication and consequent lack of resistance to infection. Again I must say not proven. Such loose statements as these can never carry conviction to those who have studied bacteriology and pathology having Koch's law as a basis.

The most extraordinary statement in the whole essay is to ask this convention of doctors (teachers of the public) to pass a resolution recommending that boards of health be required to inspect dental surgeries and dental institutions to see if their instruments are sterilized or not. Just think of what this means, we who have studied and investigated this subject and brought it to its present status, ask the local boards of health of laymen to examine us as to our fitness to keep clean. What an insult to a body of professional men, whose sole reason for existence is to guard the public health and to educate the public in matters of modern scientific knowledge. Think of sending the local board of health into an hospital to examine the instruments in the operating rooms to see if they were sterilized. Men who have a charter from the Government to do a highly specialized character of work because they could do it better than anyone else, then ask the municipalities to examine them to see if they know the first principles of their calling. No, it is our duty if our members are so lacking, as the essayist believes, to immediately institute that examination.

The Legislature believes we know more about these things than they do, else they would not have put the control of mouth health in our hands. If we have been derelict in our duty it is high time we should do something about it. But not apply to local municipalities.

Dr. DUBEAU—Gentlemen, I am sure you have listened with great interest to this able discussion of this paper by Dr. Webster. The question of infection by dentists is a very serious one. The dentist is certainly blamed more often than should be for infection, and I should say that even the medical man is too prompt to blame the

dentist. It is such an important question that I would like to hear somebody else discuss it.

DR. WEBSTER—Mr. President, I would like if Dr. Clemens, of Collingwood, would be called on to say a few words.

DR. MCARTHUR—Might I ask the question, first, if Dr. Webster would kindly tell the association who Dr. Curtis is.

DR. WEBSTER—So far as I know, he is a man who practised dentistry in Syracuse for some years, and is practising in New York City to-day as a specialist. He is a very noted surgeon in New York.

DR. CLEMENS—Mr. President and Gentlemen,—I was just wondering while Dr. Curtis' paper was being read what he was, and this gentleman took the question from me. I was going to ask whether he was a dentist or whether he was a medical man, when I heard his paper. I have nothing but the highest respect for the medical profession. I am a dentist, I am also a medical man; but the medical men sometimes have not very much consideration in questions of that kind for the dentist, and I just mention one or two cases that I wanted to speak about with regard to carcinoma. When the essay was being read I wondered if carcinoma could be produced by unclean forceps. Bacteriologists, up to the present time, have not been able to produce any form of cancer. The other day I saw in one of the scientific papers that a French surgeon has produced cancer, however, it has not been proven yet, and we may accept it, I suppose, with a little reservation at present. If it was carcinoma, it would be impossible for an unclean forcep, or unclean hypodermic, or an unclean solution, to produce such an effect. I would like to know if all my confreres, when they have an inflamed tooth, or when they have an abscessed tooth, curette the abscess cavity? I had a case in mind of what a medical man said. A dentist I know gave chloroform to a patient. About six weeks after that patient took sick and was sick for two or three months. The doctor said it was owing to the chloroform given by the dentist, and that if the patient had had a small portion of chloroform more it would have produced death. It would not be possible for any medical man to say, with any degree of certainty or any degree of surety that chloroform, after that time, could produce death in any person. There is another case, too, that I would like to mention, in my own practice. There was a patient I had (this was about a year ago last Christmas). She had been in the West, and came to me because she had a troublesome wisdom tooth, which had been broken by a medical man some months before. It did not cause any trouble after that for some months, when she went West. While she was out there the tooth abscessed. She went to the hospital and had

three operations to extract the tooth, and it was not removed. Each time the swelling occurred the jaw would become so stiff that she could not move it, though there had been no instruments applied. We all know that when we have much trouble with wisdom teeth the jaw will become stiff, not from septic instruments, but just as the result of the infection. I called a physician, and he administered an anæsthetic, and I think I took out all the remainder of the root, but whether I did, or whether I did not, I cannot say, and I curetted the bone. It did not heal up. It kept on discharging from the angle of the jaw from two points, and it had been for months. Sometime afterwards I curetted the bone again. It healed up, and was all right in about two weeks, although it had been discharging for months.

DR. E. J. C. CHAMBERS—Mr. President and Gentlemen,—It must be with diffidence that I approach the subject on which two such different opinions have been expressed. At the same time, I cannot help agreeing with Dr. Webster in deploring the view which Dr. Curtis seems to entertain. I have had come under my notice recently a couple of cases which seem to prove again the readiness of medical men to throw the blame on the dentist for septicæmia. In one of these, a lady came to see me in the course of last summer. She was having a good deal of trouble, particularly below the orbit of the eye, and after examining her carefully, I enquired of her past history, and she informed me that if I could not tell her what was the trouble, she could tell me. She had gone to a dentist in Quebec, he had extracted a tooth for her, and the trouble had appeared in the region of the eye. Consulting an oculist, he had informed her that the "dentist was the cause of all the trouble. He had extracted an eye tooth, and the eye tooth was connected with the eye, and there the trouble was!" My reply was, "Well, Dr. so-and-so is a good oculist, and he probably knows all about the eyes, but he certainly knows nothing about the teeth if he made such a statement as that." I found it very strange that the cuspid was still in the jaw. It was a bicuspid which had been extracted. I defended that poor dentist to the best of my ability, and I had this lady consulting two surgeons in the Jeffrey Hale Hospital in Quebec, and she finally came up to the Royal Victoria Hospital at my suggestion. They found her the victim of carcinoma, and they operated on her, but the disease had progressed to such an extent that death was the result. At the same time, this lady's daughters told me that, "You are defending that horrid little dentist, and he was the cause of it!" Another case, at the lower third molar and ramus of jaw, grew a sinus, which discharged fully to first bicuspid, but it would be a very difficult thing to say that it was septicæmia, caused by the

dentist, very difficult, indeed. I should not presume to do so. For one thing alone, I consider, however aseptic your instruments may be, every tooth is surrounded by masses of bacteria, which it is not always possible to remove, and which you may draft into the soft tissues and cause infection. There are multitudinous ways of causing infection.

Then the subject of the hypodermic injection. I consider that there is very little doubt that a hypodermic injection in a great many cases might cause that sort of thing, and therefore there is one thing I have been using, which comes prepared in a capsule, drawn to points at either end, and by simply breaking one end and putting it into the syringe, if your syringe is aseptic you will eliminate the danger of pouring your solution from a bottle, or dipping your syringe point in. I have not much more to say except that I cannot but agree most heartily with Dr. Webster. It would be one of the most sorry reflections that we could bring about on our profession were we to employ any boards of health to come around and inspect dental offices. Most boards of health have enough trouble to find the cause of defect in drainage, without their presuming to examine the instruments of men who are in a position to call themselves scientists.

DR. DUBEAU—We have the pleasure of having with us one of the most eminent dentists of the United States, and I would ask him to say a few words to close the discussion.

DR. GUILFORD—I suppose I need hardly say how much pleasure it gives me to meet with the Canadian Dental Association on this occasion, and particularly to come here as its guest.

In regard to the paper, it struck me that this is a subject of very great interest. It interests every dental practitioner because we are constantly in danger of having trouble from this very cause. We have all read, and a great many of us have experienced the fact, that in many cases of septicæmia, very often we do not know how to account for them. Dr. Curtis has spoken in his paper about the results of the use of septic instruments. We know perfectly well that when instruments are unclean and in a septic condition that they are capable of doing a great deal of harm, and yet, at the same time, very frequently we use, and others use, instruments that we have no reason to believe are unclean, and yet we know that bad results follow. Very many times in the history of dentistry results have followed the extraction of teeth, sometimes very serious results, which have been attributed to the unclean condition of instruments. I think that in many cases that is not the case. The results were there, and I do not think the cause was properly placed. I do not believe that there are many dentists throughout the civilized world where instruments would be used that were unclean, and there are

not many places where they would be used unless they had previously been sterilized; and while occasionally, I say, we do have some very bad results, these results will not harm everyone; but the only way to prevent them is to prepare ourselves in advance by properly treating all the instruments after they are used. Now I think, I have often thought, that it was perfectly marvellous when we consider the number of dentists in this portion of the world, that have extracted teeth in large numbers, and have had no serious results. We wonder, because we know that the germs of disease are almost everywhere present, and yet we take an instrument that *may* be perfectly clean, extract a tooth, cause a large open wound, sometimes half a dozen of them in the same mouth, and yet no serious results follow. Now, the animal creation is furnished with a means of preventing disease that is very proper and very good. When a dog, say, is wounded, it takes its tongue and licks the portion that has been injured. We know approximately what is taking place. They take their saliva and cover the wound, and in that way they ward off the germs and protect the wound against any possible harm, and it is quite possible that in the mouth, where we cause these open wounds by extraction, that the saliva acts in the same way as it does in the animal. But though it does, as I said before, the right way to do is to take all possible means of prevention, and that is a thing that is very simply and easily done. It is not hard to sterilize our instruments, it is very easily done, and every practitioner can do it as easily as he can wash his hands. It is not necessary to have an apparatus for boiling your instruments which might injure the wooden handles, and it is not necessary to have a specially prepared boiler. We can use it in the shape of formaldehyde, and that is what I am constantly using in my practice. I have a jar containing a certain amount of formaline, 40% solution, and that is reduced until we have a strength of about 10%, 5% probably would do, and then immediately after instruments are used, all except the packing instruments; they are taken by my assistant, and thoroughly scrubbed with water and soap, and they are then placed in this solution of formaline, remain in this cold solution about 20 minutes, and placed in a bottle containing a certain amount of distilled water, and allowed to remain there about 20 minutes; then they are wiped off, and put back in the drawer where they belong. That is done every time they are used. In all cases where we deal with anything that is liable to come in contact with the blood of a human being, what we want is to have our instruments thoroughly clean, as we recognize cleanliness; it might be dangerous to use an instrument that had been lying in a drawer for some time; but it is very easy to sterilize it before it is used. I believe that if dentists would make it a point to sterilize their instruments

in any simple way, they will almost entirely eliminate any sort of danger of infection, and when it is so easily done, I do not see why it is not more universally done. Nowadays, when extraction takes place, if it is done by a competent person, after he has extracted the tooth, with his clean instruments, he will wash out the socket, and will place in this socket some gauze, or something of that sort, and give the patient a sterilizing wash; and by this simple means avoid trouble. It is far easier to avoid trouble than it is to conquer the trouble after it has occurred.

DR. WEBSTER—Dr. Guilford, perhaps, forgot to mention in regard to his sterilizing solution: Add borax to it, or your instruments will rust. The solution does not need to be 10%, nor do the instruments require to remain in it 20 minutes; 5% for five minutes is quite enough; 3% for 4 minutes is plenty. I am not guessing, I have made the experiment.

DR. PEARSON.—I would like to make a few remarks concerning the paper. In the cabinet of our Dominion House, one of the members was contesting an election, and as an opponent he had a friend of his, of whom he had frequently heard that he had imbibed a little too much intoxicating liquor; and in an election speech, he mentioned the fact that he had frequently heard these things. "But, gentlemen," he said, "knowing this candidate, my opponent, as I do, I am loathe to believe that he can be guilty of any such misconduct. During the recent elections I have again heard these remarks, and I was again forced to deny them, knowing the candidate as I do. But not very long ago, I happened to witness a most unfortunate condition of my worthy opponent, due entirely to the imbibing of intoxicating liquors. Gentlemen, I just tell you this in order to show you how a man may be disappointed." Now I want to tell you that I have for a long time been reading the papers of Dr. Curtis. I believe he is one of the corresponding editors of the Dominion Dental Journal, and I have frequently felt that Dr. Curtis was not giving the attention to these matters that he should have been, and I was disappointed in some of his papers; and I saw him in New York some time ago, and again I was disappointed, but still I had faith; but after hearing this paper to-day, I must say that I am very much disappointed. I think he has made such statements and taken such a stand that we can very well dispense with his name from the list of the editors of the Dominion Dental Journal. I think it is a fact that he is still on that list. Am I right, Dr. Webster??

DR. WEBSTER—I think so; yes.

DR. PEARSON—It seems to me that it is rather important that a man who pays so little attention to the actual facts, we may say, of cases, but depends so much upon the stories of patients and believes

implicitly the tales that he hears from people who have been maltreated, and then comes back and accuses the dentists of these things, that at least he is not discreet enough to be in such a responsible place.

DR. DUBEAU—Anybody else want to express his views on the subject? If not, I will adjourn the meeting.

DR. GUILFORD—I want to say a word after what Dr. Webster has said. In regard to the solution rusting the instruments and eating away the nickel plating, the points of the instrument are not nickel plated, and as only the point goes into the solution, that danger is obviated.

## EMPHYEMA AND MAXILLARY SINUSITIS.—DIAGNOSIS AND TREATMENT.\*

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Translated by DR. FRANK HARWOOD, Dentist,

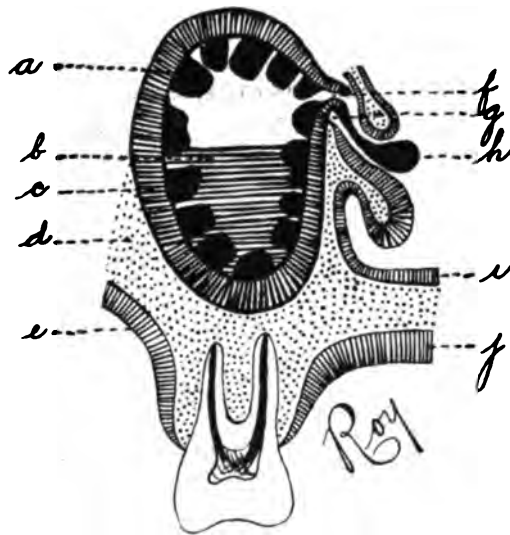
Assistant Professor in the Dental School of Laval University.

During the last ten years nasal surgery has made great progress, especially since the remarkable work of Luc of Paris. This author has made a special study of the sinuses of the face, and has greatly contributed toward our advancement in rhinology, by giving us brilliant operative methods. This communication will be a *résumé* of the therapeutic knowledge we have on the chronic diseases of the maxillary sinus, a subject which "La Société d'Odontologie canadienne française" has done me the honour of discussing before it.

Formerly, all suppurations of the antrum of Highmore were invariably treated by means of a canula penetrating into it after extraction of a molar tooth and perforation of the alveolus. Cooper, in the 18th century, first had the idea of this minor operation, and advised washing the sinus with divers antiseptics which were very often employed indefinitely. To-day, with the knowledge we have of the pathogeny of this disease, we are in a better position to fight with success against its ravages, especially since we have learned to diagnose the difference between empyema of the maxillary sinus and true sinusitis. To explain more clearly the difference between these two diseases, I must say a few words on their etiology. The diagrams which accompany this article, I trust, will make this subject clearer.

*A.—TRUE MAXILLARY SINUSITIS.*

When a patient comes to you with suppuration of the antrum of Highmore, the first thing is to find out the seat of the trouble. The recent works of Lermoyez and Mahu, so clear and precise, have largely contributed to the broadening of our knowledge on this subject. In truth, these authors teach us that in maxillary sinusitis, the walls of the sinus are affected, and, in consequence, pus is secreted by the cavity itself. The mucous membrane degenerates into a layer of fungous and myxomatous tissue of a thickness often reaching one centimetre or more. In other words, true sinusitis is a secretion of pus "in situ" (Fig. 1).



*Fig. 1.—Maxillary Sinusitis.*

- a. Buds of the sinusal mucous membrane. b. Pus in the sinus. c. Hypertrophied mucous membrane of the sinus. d. Bony wall. e. Gingival mucous membrane. f. Ostium of the sinus. g. Middle meatus. A. Mucous polyp of the nose. i. Nasal mucous membrane. j. Palatine mucous membrane.

This disease has for origin an acute sinusitis caused by rhinitis due to influenza; or, again, the transformation of maxillary empyema into chronic sinusitis, by alteration of the mucous membrane and formation of granular tissue.

*B.—MAXILLARY EMPYEMA.*

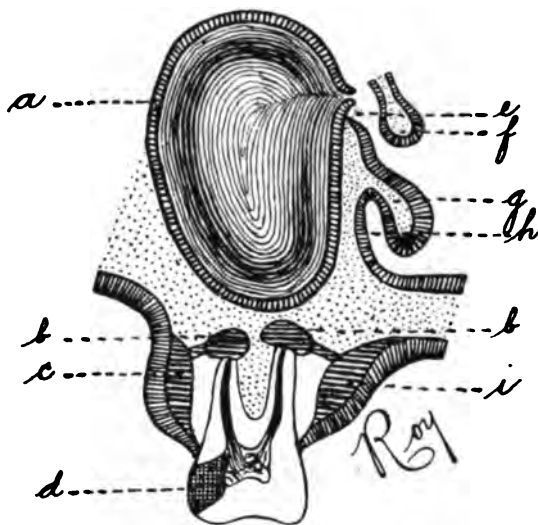
In maxillary empyema, pus is collected in the cavity without alteration of the walls. This pus may have for origin a dental abscess; or, again, come from the nose by the ostium, following a frontal, sphenoidal or ethmoidal sinusitis. In these cases, the mucous membrane is normal, and the sinus acts as a reservoir for pus of ex-



traneous origin. It can remain in contact with the mucous membrane of the sinus for a long period without altering it. However, with time, the mucous membrane may become infected and suppurate. Fortunately, this transformation takes a long time to occur, contrary to what takes place in cases of acute sinusitis of nasal organs, where pus in a state of stagnation quickly attacks a mucous membrane which, because of its altered state is in a condition of less resistance from the very first.

#### ETIOLOGY OF MAXILLARY EMPYEMA.

The cavity of the maxillary sinus, regarded from its anatomical relations, can be infected through two different tracts:



*Fig. II.—Caries and dental abscess.*

- a. Normal mucous membrane of the nose. b. Dental abscess. c. Abscess of the gum.  
d. Dental caries of the fourth degree. e. Middle meatus. f. Middle turbinate  
bone. g. Inferior turbinate bone. h. Inferior meatus. i. Abscess  
of the palatine mucous membrane.

1. Infection following a case of periostitis and dental abscess, perforating the alveolus and the mucous membrane of the sinus, an hypothesis which will occupy most of our attention in this communication.

2. Infection coming from the nasal fossa by the natural opening of the sinus which is situated in the middle meatus. I will not delay longer on this last mode of infection, but will proceed immediately to dental causes.

An abscess at the apex of the root of a tooth can find its way to the external surface in three ways:

(a) Pus can go toward the interior surface, toward the side of the roof of the mouth, lift the mucous membrane, produce a subperiosteal abscess, and later produce a palatine fistulous opening (Fig. 2).

(b) Toward the exterior, toward the gum, and produce a gingival fistulous opening (Fig. 2).

(c) Upwards, perforating the floor of the sinus, and lifting the mucous membrane without destroying it (Fig. 3).

When pus has remained a certain length of time in this cavity, the mucous membrane of the sinus degenerates and is perforated. This cavity being filled with pus, we are then in presence of a case of maxillary empyema (Fig. 4).

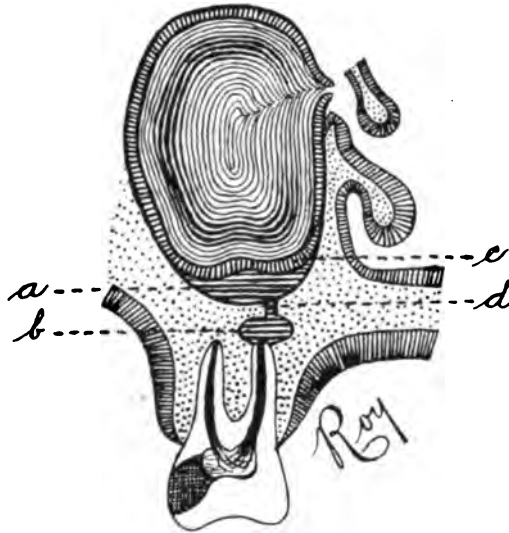


Fig. III.—Blind Abscess.

a. Pus in the sinus. b. Apical abscess. c. Sinus mucous membrane lifted by pus. d. Perforation of the floor of the sinus.

In certain cases, the alveolus and the mucous membrane of the sinus are perforated together without lifting of the membrane by the pus. Such is the mode of formation of this affection so well studied recently by Mahu, whose works have inspired me.

#### DIFFERENTIAL DIAGNOSIS OF MAXILLARY SUPPURATION.

A patient complaining that when blowing his nose, pus comes out, should be examined methodically so as to find out where it originates. Naturally here, I am referring to the maxillary sinus. We have at our disposal several means of diagnosing the case, viz.:

1. Examination of the nose; 2. examination of the teeth; 3. ex-

amination with electric lamp; 4. exploration puncture; 5. sign of Mahu; 6. sign of Guisez-Guérin.

1. *Examination of the Nose.*—When making anterior rhinoscopy, we see pus coming from the middle meatus. In certain cases there are polypi. Posterior rhinoscopy oftentimes discloses pus coming from the choanæ and spreading on the velum palatum. Allow me to mention also Fränkel's sign, which consists of cleansing the patient's nose, and then to make him keep his head bent forward for a few minutes. If another examination shows pus in the middle meatus, we may conclude there is maxillary suppuration.

2. *Examination of the teeth.*—The teeth are next carefully examined, especially the first molar, which is most often involved in these affections. According to de Croës—dentist—the teeth which

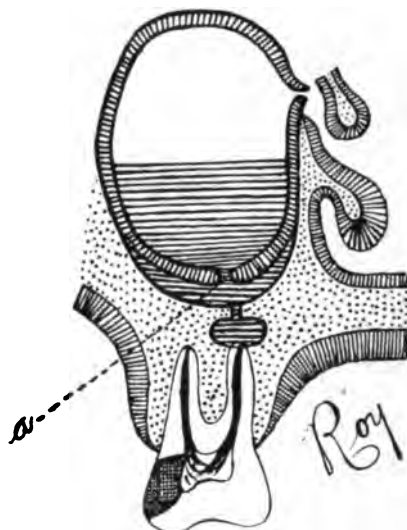


Fig. IV.—Maxillary empyema.

a. Perforation of the sinusal mucous membrane and influx of pus in the cavity.

are most apt to produce infection of the sinus, are the following in order of frequency:

1. First molar; 2. second bicuspid; 3. second molar; 4. first bicuspid and cuspid; 5. third molar.

Caries of the fourth degree, fistula of dental origin, also pain on percussion ought especially to draw attention.

3. *Transillumination.*—(a) Heryng's sign.—Examine patient in a dark room. A small electric lamp of six or eight volts is put in the mouth of the patient, who is instructed to close the lips. Both sides of the face should be equally translucent. If one side is darker, there is probably pus in the corresponding sinus.

(b) Vohsen-Davidsohn's sign.—When a lamp is used as above

described, the pupils are luminous when normal. If one is dark, we probably have a suppuration of the antrum of Highmore; this sign is of great importance.

(c) *Garel-Burger's sign*.—In the normal condition, the eyes being closed, the patient ought to perceive the light on both sides, the lamp being placed in the mouth.

Luc says, however, that the diagnostic value of these signs is not infallible. Thus a thickening of the bone of one side of the face, can obstruct transillumination of the eye or the sub-orbital region, without suppuration of the sinus.

Again, we come across exceptional cases in which the pupil is translucent, even though the operation reveals a maxillary empyema.

4. *Tapping*.—To Moritz-Schmidt is given the honour of first having had the idea of tapping the maxillary sinus. This is done with a special trocar which is pushed into the antrum through the cocaine-ized inferior meatus, at about four centimeters from the entrance of the nares. We can also penetrate by way of the middle meatus, but there is danger, especially for the eye. The needle removed, an antiseptic lavage is made of the sinus, through the canicula; if there is pus, it passes out through the ostium. When no pus is washed out, we must not necessarily conclude that there is none; for we have observed cases where a membranous diaphragm divided the sinus into two parts,

5. *Mahu's sign; sign of capacity*.—This sign is based on the fact that there is no chronic maxillary sinusitis without a thickening, more or less considerable, from the very first weeks; and later a fungous and myxomatous degeneration of the mucous membrane of the sinus, and, consequently, a marked and always noticeable diminution in the capacity of the sinus. This test is made in the following way: let the patient sit holding the head steady and straight. Apply cocaine, puncture the sinus with a trocar by way of the inferior meatus, wash thoroughly to get rid of enclosed pus. The cavity is filled with fluid to level of the ostium, the excess passing out by this opening. To the canicula adjust Roux' syringe; by pulling out the piston very slowly the liquid which fills the sinus is drawn into the syringe. Then the capacity of the antrum will be indicated in cubic centimeters. Mahu concludes by saying: "Whatever may be the capacity of the sinus in a normal state, we conclude the existence of a true chronic maxillary sinusitis whenever the quantity of fluid aspirated is less than  $1\frac{1}{2}$  cubic centimetres; and that there is maxillary empyema when the quantity is greater."

6. *Guisez-Guérin's sign*.—After having recognized a maxillary suppuration by the darkness of the cheek and of the pupil with the electric lamp, and having corroborated the diagnosis by puncture,

we examine again with the light. If this time the pupil is translucent, we diagnose an empyema, if still obscure a maxillary sinusitis.

#### TREATMENT OF MAXILLARY SUPPURATION.

*A.—Empyema of the sinus.*—Whatever may be the origin of the maxillary suppuration, it is the attending doctor's duty to get his patient's teeth examined by a dentist, so that he may treat him more scientifically. When maxillary empyema is diagnosed, and the teeth seem to be the cause of the trouble, Lermoyez expresses himself as follows: "Extraction of the diseased tooth should be effected v.ry "carefully so as not to create a communication between the alveolus "and the sinus, should this not a'lready exist. This done, two con- "ditions present themselves. When the sinus communicates with the "mouth, we must take advantage of this opening to wash out the sinus, "but more especially without enlarging the opening, and without "putting in a drainage tube. It is only in the case of small alveolar "sequestra existing, that one is justified in curetting and cauterizing "the alveolus so as to hasten its cure. When the sinus does not com- "municate with the mouth, we must be careful not to make such "communication and evacuate the pus of the empyema by means of "irrigation through the nose."

In the case of empyema of buccal origin, the abscess being opened by the extraction of a tooth, it is an easy matter to cure this disease by a few antiseptic washings of the sinus. The drug employed ought to be very well diluted; because we depend more on the mechanical effect of the irrigation than on the antiseptic action of the drug itself.

In case of a patient refusing the extraction of a molar tooth, the dentist could, perhaps, try drainage of a dental abscess, and even evacuate the pus of the sinus by washing, using the palatine root of the molar tooth. This root is always the most at fault in empyemas of dental origin, and sometimes it is in direct relation with the mucous membrane of the sinus. However, the result is always doubtful, and oftener we are forced to resort to extraction.

If washing of the sinus is done through the nose for a nasal empyema, it is better to tap through the interior meatus at once. In truth, it is very difficult to wash thoroughly this cavity by its natural opening, for, on account of the complicated anatomy of the part, the fluid would have to travel back by passing near the canula, and the washing would be incomplete. Hajek and Lermoyez have made the following experiment: A lavage of the sinus is made through the ostium and the fluid comes out clear; immediately after a puncture through the inferior meatus brings out curdy pus. This proves

that the fluid penetrating by its natural orifice reaches the maxillary sinus by its upper part, and comes out at the same point; so that the stream does not wash the floor of the cavity thoroughly.

*B.—True maxillary sinusitis.*—When the diagnosis of true maxillary sinusitis has been thoroughly established by means of the ingenious methods of Guisez-Guérin and of Mahu, the patient is again instructed to call on his dentist if the trouble is suspected to have originated by the mouth. The latter, after having extracted the carious tooth, should be careful not to open the sinus, and more so to put in a drainage tube. However, should he suspect periostitis or a sequestrum, he would be justified in attempting its removal. Very often his efforts will be useless, and the sequestrum will be removed only by radical operation. It is better to cure the gums before treatment of the sinus, because the existence of an alveolar fistula is unfavorable for the success of a later operation. I will not speak of lavage here; because in a true sinusitis antiseptic irrigations are not sufficient to cure a mucous membrane in a state of fungous and myxomatous degeneration. It is then necessary to adopt a more surgical treatment which will allow perfect curetting of the antrum of Highmore. There are three principal ways of reaching the sinus:

1. Claoue's method.
2. Desault's method.
3. The radical operation of Caldwell-Luc.

*A.—Claoue's method.*—This operation, as practised by the author, consists of three steps:

1. *The removal of the anterior two-thirds of the turbinated body.* This is removed with scissors close to the nasal wall.

2. *Resection of the wall.*—The sinus is opened by means of a trephine or by an electric drill. The opening is begun about two centimeters from the anterior extremity of the turbinated body, and is carried back far enough in this manner to admit freely the tip of the thumb.

3. *Cleansing and dressing of the sinus.*—The sinus is washed, the largest buds only are removed with the curette. The aim of the author is not a thorough curetting, but a drainage. The cavity is touched with chloride of zinc and is packed for forty-eight hours with iodoform gauze. The following days, wash the parts, and blow in a non-irritant powder, after having dried the mucous membrane of the sinus.

This method presents advantages and disadvantages. The only plausible advantage is that it does not necessitate a general anesthesia. According to its author, the operation is not very painful and is easily performed, if the turbinated body has been well removed.

Among the many disadvantages of that intra-nasal operation, the greatest criticism which one can make is that it does not allow a sufficient exploration of the sinus, and consequently a complete curettage is impossible. Moreover, nowadays, it is a recognized fact that the success of an operation depends on the thoroughness with which it is practised. And again, the author himself acknowledges that his method would have been powerless to cure certain patients who were definitely cured by a Caldwell-Luc's operation.

*B.—Desault's method.*—This operation consists in opening freely the anterior wall of the maxillary sinus, after having cut the gingivo-labial mucous membrane at the point of union. The antrum is then curetted with care, drainage is established, but the buccal wound is not sutured. The secret of this method is to watch daily the progress of epidermization which takes on an average a year and a half. The doctor should keep the wound opened, and watch that there is no formation of new buds in the antrum. When the patient is cured he should wear a prosthetic appliance to close the opening of the sinus.

Among the advantages of Desault's method, we should recognize that when we have a sinus in which the orbital wall is attacked by osteitis, the watching of the bone repair is rendered very easy through the opening into the sinus. However, its only superiority over Caldwell-Luc's method, is in the case of extensive alveolar osteitis, due to dental lesions. For the cure to be definite, it is necessary to make a large resection of the whole alveolar border, and sometimes to remove part of the floor of the sinus. Then, under these circumstances, it is impossible to attempt the reunion of the gingival wound, because the rough edges would invariably be attacked by sphacelism. Moreover, it is contra-indicated to make a naso-sinusal opening.

This method, like the preceding one, presents also disadvantages:

1. The patient has to undergo numerous dressings, accompanied by curetting and cauterization of the sinus for nearly two years.

2. The opening has a great tendency to close, and every day the patient should insert his finger into it.

3. The food can be masticated on one side only, and to quote Luc's picturesque expression, the patients are condemned to eat everything "à la sauce iodoformée."

4. Add to this the wearing of a prosthetic apparatus.

*C.—Caldwell-Luc's method.*—The radical cure of maxillary sinusitis by this process is certainly the greatest invention of the surgery of the antrum of Highmore. Caldwell of New York, in November, 1893, published an article on this subject giving the description of this operation. However, his work appears to have passed unnoted even in his own country. In May, 1897, Luc of

Paris, gave to the "Société Française d'Otologie," a communication on this method which bears his name. He declares having noticed the article of his American colleague, more than a year after his own experiments. Following is a description of the six stages of this radical cure:

1. *Incision of the mucous membrane.*—The patient is anesthetized with chloroform, and a pledget of cotton is placed between the molars, to absorb the blood and prevent its falling into larynx. It should be changed often. After pushing away the upper lip, the head is turned slightly toward the operation side, and a cut is made in the gingivo-labial groove, from the first molar to the canine tooth.

2. *Opening of the sinus.*—The anterior wall is opened with the chisel and mallet, after having been well rugined. The opening should be large so as to allow a free access to the instruments, and will end on the internal wall.

3. *Cleansing of the cavity.*—The sinus should be very carefully scraped, for on this depends the success of the operation. Attention should be paid to the angles, and Luc's curette will be indicated here.

4. *Creation of an artificial opening.*—The inferior turbinated body is removed with the Laurens' forceps, and a large sinuso-nasal communication is established, preferably with Lombard's forceps. The opening should be on the floor of the sinus so as to facilitate drainage.

5. *Naso-maxillary drainage.*—The sinus is very carefully dried, and then cauterized with a solution of 1 in 20 of zinc chloride. We push in the antrum a piece of iodoform gauze, which is brought out through the corresponding nostril, and the remainder of this is lightly packed into the sinus.

6. *Reunion of the buccal wound.*—The wound is sutured with catgut by a continuous stitch starting from the external angle. A small needle specially curved will be useful.

The cheek is generally swollen on the day following the operation. The mouth is gently washed with an antiseptic, and during the first days the patient is fed on liquid foods. About the fourth or fifth day, the iodoform gauze is removed, and we begin a series of irrigations. The average of five weeks is generally sufficient to bring about a complete cure, by the formation in the sinus of a fibrous tissue epidermized by the epithelium of the nose.

We cannot recommend too strongly Caldwell-Luc's method as the operation to be preferred for true maxillary sinusitis, because it has all advantages over the others. However, as we were saying above, we will make an exception for the cases of necrosis of the alveolar border with osteitis of the floor of the sinus, where we should use Desault's method.



Allow me to relate here the case of a patient who was operated by the Caldwell-Luc's method, and who had previously been operated upon by the Claoue's method.

*Case.*—Mr. J. S., aged 24, recommended to me by Sir William Hingston, came to the Hotel-Dieu Hospital for consultation on the 20th of July, 1905, for an affection on ~~the~~ right side of the nose.

He has lived in Canada for a year, and is a binder by trade.

*Personal History.*—He tells us that since five years pus comes from the right nostril, but cannot tell if it came after a cold in the head. He had had scarlatina and measles in childhood. He has also had slight attacks of rhinitis without being subject to this disease. Excepting the above mentioned fevers, he has always been healthy.

*Family History.*—His family is in excellent health, and his history reveals no diathesis which might explain the local disease.

*Physical examination.*—By means of anterior rhinoscopy, we find a total absence of the right inferior turbinated body. There is a large communication between the nose and the sinus. The entire nasal fossa is covered with pus which seems to take its origin in the antrum. Slight hypertrophy of the left inferior turbinated body.

Posterior rhinoscopy reveals a small quantity of pus coming from the choanæ; catarrhal pharyngitis. The larynx is normal.

All the upper right teeth have been removed. The patient said he had them extracted two years ago because they were carious and pained him. The gum is well healed.

A lavage of the sinus brings out a large quantity of pus, and the right cheek and pupil are obscure when examined with the light. The left side is normal. There is no tuberculosis nor specific history. Absolutely normal state of all the other organs.

The patient tells us that on the 10th of March, 1905, he underwent an operation on his nose in one of the hospitals of the city. The following days they washed out the sinus, and put in a strip of gauze. He followed this treatment since the above date, that is, more than four months; and, as there is no change, he gives up hopes of cure, and it is then he comes to us.

It was evident we had a case of maxillary sinusitis that Claoue's method had failed to cure. After explaining to him his trouble, we propose a second operation, which he accepts, and which was done on the 27th of July, 1905.

*Operation.*—Anæsthesia of patient with chloroform, incision of the gum at the point of election after Luc's method. Large opening in the anterior wall of the sinus which is filled with pus and fleshy buds; thorough curetting of this cavity, cauterization with zinc chloride. Drainage of the sinus with a strip of gauze passing

through the nasal opening made at the first operation; suture of the lips of the wound.

The results were excellent; we removed the drain on the fourth day. We then begin daily irrigations of the cavity, and five weeks after the operation the patient was definitely cured.

If this operation of Caldwell-Luc has given a result more beneficial to the patient, it is because we were able to thoroughly curette the sinus.

*Conclusion.*—In presence of a suppuration of the antrum of Highmore, it is necessary to make a differential diagnosis between empyema and true maxillary sinusitis. We have for that the signs of Guisez-Guérin, and especially that of Mahu, which will be of great help.

We then see if the trouble is of nasal or of dental origin. In the last case the diseased teeth must be extracted, and if we have a case of empyema of the sinus communicating with the perforated alveolus, we must wash without putting in a drain. It is now recognized that it is better not to use the canula, because it may retard and sometimes stop the cure, by epidermization of the dental tract.

If the origin is nasal, the neighboring sinuses must be treated, and a few punctures made in the inferior meatus.

When we have a true maxillary sinusitis we should equally see if the teeth are the cause; and, after having had these attended to, we should open the antrum through its anterior wall.

Claoue's method should be followed only on patients who cannot be anæsthetized.

Desault's method is suitable only for a case of sinusitis complicated with necrosis of the dental alveolus, and part of the floor of the sinus.

In all other cases, we should use the excellent method of Caldwell-Luc, which will give us a prompt and definite cure.

This, gentlemen, is the path we should follow in presence of a maxillary suppuration.

## Selections

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### A PLEA FOR THE MORE CONSERVATIVE USE OF ANESTHETICS, NARCOTICS AND SEDATIVES IN DENTAL PRACTICE.—*Continued.*

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BY C. P. PRUYN, M.D., D.D., CHICAGO, ILL.

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Read before the Illinois State Society, May, 1905.

DR. GEO. W. HASKINS, of Chicago: The public seems to feel that if we would we could produce painless dentistry, but if there is any danger of serious permanent disorder following the use of a local anesthetic it does not seem to me that we are warranted in taking any chances. In any work where permanent disability or permanent injury to life might result from the lack of an anesthetic its use is advisable, but where it is used habitually to allay all pain it is hardly warranted. Dr. Hazell, Dr. Pruyne, and one other who discussed the essay mentioned the possibility, if death should follow the administration of an anesthetic by a dentist, that he would be placed in an embarrassing situation. It may be well to state an instance that happened in Chicago some years ago, where a dentist was called upon by a patient to extract a wisdom tooth which had been broken off by a neighbor the previous day. The gums were so swollen that he could hardly see it. The crown was gone. He called to his aid a physician in the same suite of offices. After the physician had made a physical examination of the patient he decided that it would be safe to administer an anesthetic, and he administered chloroform, previously stating to the patient what his (the physician's) fee would be. The patient died after a few inhalations. The coroner's jury sitting on the case exonerated the physician. They also claimed that they could not hold the dentist because he had not done anything, but they did see fit to reprimand him. For what I don't know. This was an actual case. The papers published it in full, and in the interest of the young man, that his practice be not damaged, a committee was appointed to see the newspapers and ask them if they would not rectify the error which had been made in censuring the young man unjustly, and the reply we got from the newspaper men was: "Oh, well, that happened two or three days ago. That is all dead news now; if you want it straightened out and a correct report made we will do it at the regular advertising rates."

DR. OTTO HOLINGER, of Chicago: I always feel that whenever pain can be prevented it should be, and I think under modern training and science very little pain is necessary. In the handling of all dangerous drugs, under modern facilities for learning there is no excuse for the man who pretends to be a professional man in the line of dentistry or medicine not to know those things in a practical way. No amount of book knowledge will teach a man

sufficiently without practice. Having had an extensive experience in hospital work where anesthetics are administered for a great many desperate cases, with an occasional death, a great many things are learned which are apt to put one on his guard. But in dentistry, unless one had a major operation, as an excision of a jaw, or a carcinoma, for instance, or some such thing as that, complete anesthesia is absolutely contraindicated. You can put the patient in the so-called talking anesthesia, in which they will not know anything about it after they wake up. The administration of an anesthetic is, I think, of great moment. Dr. Bevan, one of the professors of surgery at Rush Medical College, made the statement that he believed there was hardly an excuse for the secondary state of excitement in the administration of a general anesthetic, and I agree with him. The average patient that comes under an anesthetic is nervous. If it is given in a dental chair with the patient sitting up, of course it is very bad, but if you exercise that training which the man who deals with patients who are usually conscious acquires in a short time you can, by administering an anesthetic very slowly, gain the patient's confidence, put him to sleep very nicely, and there is very little if any trouble. As a rule this applies to chloroform, but to ether also, although some people do respond a little less pleasantly to ether than chloroform. The average dentist, with the average training in a dental college, I hardly think is competent to administer a general anesthetic, and should not be expected to be. Instead of having the chair of anesthesia as a sort of heading to fill up a very attractive report the teaching should be done earnestly and in a deserving manner. As far as local anesthetics go, if one takes precaution in his asepsis, and by the way that is so easily done that there is not excuse for the dentist not to do so, for he may keep his needles in a solution of carbolic acid for four or five hours, and then in alcohol to neutralize the carbolic acid, and kept there until they are to be used again. Then the mouth should be washed out well just before the injection is made and only a small amount of local anesthetic used, relying mostly on the pressure anesthesia, and there is no danger in the proper solution of cocaine. We know now definitely the dose of cocaine, barring idiosyncrasies, and these usually manifest their peculiarities in the early stage, so if you work slowly you will find them out, and a great deal can be done to prevent trouble. I was called in by a brother dentist some months ago who had applied cocaine to a patient to put on a band. He had literally swabbed the whole mouth with a 5 per cent. solution of cocaine in order to make the fitting of the band less painful. The fauces, even, were anesthetized. Of course local anesthetics must not be condemned on account of such misuse as that. There is a distinct advantage in taking pulps out under cocaine anesthesia, and in extracting the average tooth I rely upon local anesthesia, because you can take your time, whereas under nitrous oxide anesthesia you must get through quickly. The human mouth has a larger circulation, perhaps, than any other part of the body. Things are absorbed quickly, and if an anesthetic is applied carelessly it can do a great deal of harm, and yet

I will say that the mucous membranes and the tissues in the mouth stand a great deal more punishment than probably any other portion of the body. There is a distinct place in dentistry for all the kinds of anesthetics, the same as in other branches of medical practice, but a thorough knowledge of the material used, gentleness and kindness toward patients, cleanliness and plenty of time, are the essential principles to follow in their use.

DR. G. W. COOK, (Chicago): The first time I ever saw cocaine used I saw it used by Dr. Pruyn, and the results of some of his work at that time he will well remember. The paper brought out the point that one under an anesthetic is very near to death. They sometimes get there. I was in a hospital, the other day, where they were operating under a general anesthetic. Ether was given. All the necessary examinations and precautions were taken, and there were no constitutional or organic difficulties pointing to any reason why such an anesthetic should not be given; but in the first stages of the ether anesthesia the patient simply passed away, did not stay long. So we see that the dangers of the first stages are not entirely eliminated.

The sloughing that sometimes follows cocaine injections is due, of course, to infection, and I think no precaution that any one might take would absolutely prevent that, for two reasons: First, you have anesthetized tissues in the way, and you place them in a condition in which infection can take place several months, even, after your operation has been performed, and if you have profoundly anesthetized that tissue you have rendered it extremely liable to infection, so that with all the precautions that you might take infection is possible to follow.

It is, of course, unnecessary to state that it is bad practice to put a person under a general anesthetic while in a dental chair, and the case that Dr. Haskins has reference to I recall very well. I think it is the same one where I called upon the dentist as soon as I found out the misfortune that he had had, and I recall how it was thought that the dentist, while he could not be held, at the same time there was a little point of criticism.

DR. LOGAN: The dentist did not touch the patient.

DR. COOK: I have appreciated this paper of Dr. Pruyn's, and the warning he has given, and I am glad we have had him here to warn us.

DR. C. E. BENTLEY (Chicago): Mr. President: I want to add my tribute of respect to Dr. Pruyn because of his early endeavors toward giving us some authentic data concerning cocaine and its effect on the system. I was one of those few fortunate individuals that had an opportunity of seeing Dr. Pruyn work on animals, and after seeing the results of that investigation I commenced the extraction of teeth with a 4 per cent. solution of cocaine, and I kept that up until finally I was compelled to stop it by a startling incident which occurred in my office, an account of which has been published. Suffice to say that the man lost the power of co-ordination for four days, lost visual power, and he was in a comatose condition in my office from two o'clock until seven. It was a remarkable case of cocaine poisoning. Since that time I have been very

careful about cocaine, and I don't use it very much. I believe there are some solutions of cocaine on the market that are safe.

In regard to injecting poisonous material from a dirty syringe, it is reprehensible and unpardonable for any gentleman to use an unclean syringe in injecting cocaine for the temporary anesthesia of any part; but I take no stock whatever in what I heard here this evening regarding the attempts at sterilizing a part. The heating sufficiently of a needle in a flame will sterilize it, but the mere swabbing of mucous membranes with an antiseptic, with the hope that you are going to sterilize it, having septic fingers, septic clothes and a septic chair, is the merest farce at asepsis. You can not sterilize an area of gum tissues by merely swabbing it over with an antiseptic solution. It has got to stay there and inhibit growth for a long time. The organisms may be in the crypts of the mucous membrane.

I don't think that any dentist is warranted in giving a general anesthetic. I don't think that a physician, unless he has served an internship, is warranted in giving a general anesthetic. The hospitals of the various countries have recognized the force of that statement to the extent that they have what they call authorized anesthetists. In London and in France the stamp of approval is placed upon every man that gives an anesthetic in a hospital. They usually commence their anesthetic with nitrous oxide, and finish with ether, or more commonly, the A C E preparation, alcohol, chloroform and ether.

The young gentleman spoke fervently about anesthetics being given by medical men. Medical men are no more competent to give anesthetics than dentists, not a bit more. (Applause). I happen to know what I am talking about. I have a hospital experience of over fourteen years in the city of Chicago, and I tell you the internes that come to the hospital have to be drilled and drilled and drilled before they know how to give an anesthetic, and even in spite of that deaths occur.

Now, therefore, I say that the dentist hasn't any business to give a general anesthetic, and I don't think that it comes within his province. I think that should belong to the domain of the physician, and I should certainly counsel a man, and particularly the younger men here, that when you require an anesthetic be sure and have the responsibility shared by a medical man.

One of the most surprising things to me in the paper is that Dr. Pruyn is robbing me of a great many of my pleasures. He says of the man who drinks coffee and smokes cigars, it is dangerous, dangerous, dangerous. I want to say that Dr. Pruyn's remarks with regard to that reminds me very much of an old colored lady in the South, who was living in a shack, and was busy with her household duties, when there came a rap at the door, and a formidable looking citizen stood outside, and the old woman said: "What do you want?" He said: "I have come down here to take the census." "What is that?" she said. "I have come down here to take the census." "For the Lord, for the Lord! You white folks done take away my freedom, and you done take away my dollars, and now you come here to take my senses." (Laughter.) So I

say to Dr. Pruyn, please spare me my coffee and my smoke. (Applause.)

DR. W. H. G. LOGAN (Chicago): The gentleman stated that we don't know anything, and therefore we should not take any chances. Dentists discovered or made known ether and nitrous oxide, and a medical student gave us chloroform. Whatever is got out of nitrous oxide and out of ether is got out of dentistry. We gave them to the world. I believe that the shock that is necessary to extract three or four teeth, sometimes one tooth, is more harmful than the giving of nitrous oxide. I believe it is wrong to tell these young men that you shouldn't do something to relieve pain. You must relieve pain in every possible way. I wouldn't say give chloroform to extract teeth, because that is wrong, and it has been a long time proven wrong, but you should give nitrous oxide or you should use a local anesthetic. When you do use it, know the amount of the drug you are injecting. It is not how much solution you use, but how much of the drug do you put in. Put in a little of the drug in a great deal of water. That makes local anesthesia. You must do something to relieve pain in dentistry or you are not living up to the precepts you should live up to, and it can be done by giving nitrous oxide through the nose while operating.

DR. ARTHUR D. BLACK (Chicago): A few weeks ago I had the pleasure of hearing a paper on anesthetics by a medical man, expert anesthetist, and the fact was developed that there are more dental schools in the country giving regular courses on anesthesia than medical schools. There is not a medical college in the city of Chicago that gives a definite course on the administration of anesthetics. The only teaching that medical men get is in watching the giving of anesthetics before classes. In most dental schools there are regular courses on this subject. I wonder if our medical friend has ever thought of the fact that dentists give anesthetics probably five times as much as physicians?

It seems to me that we should administer many different drugs for the relief of pain; we should study the case and use what may be best for that particular case. I think Dr. Logan is in error in saying that we should not give chloroform to extract teeth. There are many cases where we are perfectly justified in giving chloroform or ether. There are other cases where we would not be justified in so doing. There are cases, particularly impacted lower third molars, where an injection of cocaine, or some cocaine preparation, is often preferable.

In the injection of cocaine we should in every case know the exact amount of cocaine we are using. We should use a definite tablet in solution, rather than a percentage solution from a large bottle. If we have a percentage solution we are more uncertain as to the actual amount of cocaine we administer than we are if we use a tablet of a quarter or half a grain in our hypodermic.

There is another element in the use of local anesthetics, and that is the psychological element. Frequently teeth can be extracted absolutely without pain by the injection of a normal salt solution.

We get the psychical effect and in addition quite a little anesthetic effect.

DR. BRUNSON (Joliet): I understand Dr. Bentley to say that we can not sterilize a certain area in the mouth sufficiently by swabbing with an antiseptic so as to prevent danger that the hypodermic needle may carry infection from the surface into the deep tissues. I don't agree with that. We take less pains with our solution, and yet we will force that right down through the gum. I think there are medicaments that will reduce to a great extent the danger of carrying into the deep tissues dangerous forms of life.

Whenever we use an anesthetic that will rob us of consciousness we are dealing with a dangerous thing. I don't think it is our duty to tell patients that we will give them an anesthetic that is entirely free from danger, and especially is this true when we give chloroform or ether. I am a physician as well as a dentist, and I have administered a great many times all the anesthetics, and I have seen others who are far more expert than I am do the same, and I have seen patients die on the operating table under the most expert hands we have. I saw one man who had taken chloroform repeatedly without the least bad effect. He was placed on the table. His heart action was perfectly normal. His respiration was good. They gave him chloroform, and in five minutes he was a corpse. They used every method of restoration possible, and yet they could not bring the man back to life. There were certain conditions in the system of that man that could not be distinguished by the most expert physicians.

Another thing, when you give chloroform don't crowd it. If you need a physician to give chloroform or ether, which is not a bad plan if you wish to have the continued anesthesia, don't let it be given rapidly. Don't crowd it at the start, because there is where the danger comes. In administering cocaine I think there should be some powerful stimulant combined with it. It is in these peculiar cases where the cocaine affects the heart suddenly that danger arises. Gentlemen, there are preparations we can use that are safe.

DR. GEO. W. COOK (Chicago): Dr. Brunson remarked about swabbing the tissues before the needle was put in. I think that perhaps I made a little error myself in regard to that point. What I meant, and I think what Dr. Bentley meant, was to say that that would not prevent infection altogether, that you could not expect that you would be absolutely free from danger of infection even after you had taken all those precautions. Those precautions are necessary of course.

(To be continued.)



# Dominion Dental Journal

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## PRACTITIONER'S COURSE AND ENLARGING THE COLLEGE BUILDING.

There are a few problems for the present Board of Directors to consider before they give up office to their successors in April, 1907. Last year, at the Ontario Dental Society meeting, there was expressed a desire to have a practitioner's course conducted in connection with the Royal College of Dental Surgeons. Not a sufficient number signified their desire to attend such a course last spring to warrant the Board in making a special effort to conduct a course on such short notice. Another year will soon have elapsed and there seems to be little or no discussion of the matter. Just because no one is clamoring for a course to be held in Toronto or because the President and the Secretary are not bombarded with applications it must not be understood that a course, if properly conducted, would not be a great success. Our Board is the leading factor in the profession of Ontario, and whatever they

undertake has general support. Although there did not seem to be sufficient desire for a course to satisfy the Board last year, there was enough encouragement to a dental supply house to conduct a course on porcelain alone, on a strictly commercial basis. Whatever may be said for or against the supply houses conducting a school of instruction for the dental profession matters little, the fact remains that there were enough in attendance at the course to pay the firm which conducted it. Besides those who paid a good round fee for the course mentioned, there were many who went to a foreign country to obtain what they could, in many cases just knocking around colleges and laboratories with students, picking up what they might. It is cheaper for the profession in Ontario to bring a first-class clinician here than for each of us to go find him where we can. In organizing such a course the Board, or some of its members, have an idea that it would be slighting our own staff to invite anyone else to assist in such a course. Nothing could be farther from the facts. The staff are as anxious to see others clinic, and to hear them lecture as any one else. They have a double desire to hear others. They can learn how others teach and what they teach.

Already dentists and students are asking where they may attend a practitioner's course next spring. There is not a week that we are not asked about such courses.

Another question of some immediate importance is to increase the accommodation of the college building. The matter has been under discussion for some time. The necessity depended to some extent on the number of students who entered this year. But not wholly upon this, because with the increase to a four year's course there is a sufficient increase in the number of students to demand greater accommodation. Besides this there is the ever-increasing demand on the dentist to widen his scope. To meet these demands more lecture rooms, more laboratories, and greater clinical facilities are required. The freshman class this year is fifty-five, which would indicate that the average attendance will be about sixty to sixty-five in each class, making a total attendance of about two hundred and fifty. In view of this the Board might do well to consider additions which would be ready for occupation in the autumn of 1907.

ONTARIO DENTAL SOCIETY.

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The regular annual meeting of the Ontario Dental Society will be held in the college building, Toronto, during the latter part of February, 1907. Dr. Hart J. Goslee, of Chicago, is expected to discuss some phase of crown or bridge work. Dr. C. N. Thompson will discuss gold inlays. Dr. G. M. Hermiston will discuss some aspect of ethics. A preliminary circular will be issued shortly.

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**NOMINATIONS AND ELECTIONS FOR BOARD OF  
DIRECTORS OF THE ROYAL COLLEGE OF  
DENTAL SURGEONS.**

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District No. 1—J. C. Bower and Mark G. McEldihenney.

District No. 2—G. C. Bonneycastle.

District No. 3—Chas. E. Pearson and A. J. Edwards.

District No. 4—R. Bucie Burt.

District No. 5—A. M. Clark.

District No. 6—Chas. E. Beihn and W. J. Bruce.

District No. 7—H. Randolph Abbott.

There will be a contest only in Districts Nos. 1, 3 and 6. The ballots will be counted December 10th. In the other four districts the present members were elected by acclamation.

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**THE DENTAL PRACTICE.**

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The latest addition in dental periodical literature is the *Dental Practice*, published in Toronto by Dr. Young, a physician, who has published *The Canadian Medical Journal* for some years. The editor is Dr. R. J. Reade, with an associate, Dr. W. E. Cummer. The first issue was gotten out under very adverse conditions, from an editorial point of view, notwithstanding the issue showed elements of strength. No doubt after the machinery gets into working order, and the publishers supply the needful

the journal will take its place as one of the educative factors of the profession in Canada. These are the growing times in Canada. With an increasing dental population there is room for two journals from an editorial and educative point of view, and no doubt the publishers know what there is from a financial standpoint. The editors stand in the forefront of the profession, and are endowed with all those *rare* qualities which make such work a success. They are noted for their educationed standing, their genius, their ability to work long hours, their tenacity of purpose, and above all, they are noted for their uprightness of character, and their high professional ideals. We welcome them to all the labors, privileges and joys of the philanthropists.

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#### OFFICERS OF THE CANADIAN DENTAL ASSOCIATION.

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President, Dr. McInnes; Vice-President, Dr. Magee; Secretary-Treasurer, Dr. Spaulding; Registrar, Dr. Doyle.

Executive Committee.—Nova Scotia, Dr. McArthur; New Brunswick, Dr. Gorham; Prince Edward Island, Dr. Bagnall; Quebec, Dr. Lemieux; Ontario, Dr. Webster; Manitoba, Dr. K. C. Campbell; Saskatchewan, Dr. Steele, Regina; Alberta, Dr. Strong, Edmonton.

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#### BANQUET TO DR. G. V. BLACK.

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The Fraternal Dental Society and the St. Louis Society of Dental Science will unite in giving a banquet in honor of Dr. G. V. Black, at the Jefferson Hotel, St. Louis, the evening of January 15th, 1907. The afternoon of the same day Dr. Black will deliver an illustrated lecture on some phase of operative dentistry.

The long and untiring efforts and valuable scientific contributions of Dr. Black easily make him the foremost dental scientist the world has ever produced. No dentist, living or dead, so much deserves the thanks and praise of his professional associates. A most cordial invitation is extended to the members of the profession to be present at both lecture and banquet and assist in honoring Dr.

Black. Those desiring covers reserved for banquet will remit \$5.00, price per plate, to Dr. Richard Summa, Secretary, Oriel Building, St. Louis, before January 12th.

Committee.—Geo. A. Bowman, Chairman, A. H. Fuller, Edward H. Angle, D. O. M. LeCron, Adam Flickinger, Wm. Conrad, Burton Lee Thorpe.

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### DENTAL HISTORY IN CANADA.

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Dr. G. M. Hermiston, 21 Bloor Street West, Toronto, is preparing a "History of Dentistry in Canada," and is very anxious to receive any information he can of the earlier dentists of Canada. Photographs of dentists, old appliances, records from newspaper files, letters, reports from courts, or church registration are all of value. All such records will be promptly returned to the sender.

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### WANTED.

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A strictly professional and experienced graduate to take charge of an office in Winnipeg for 3 or 4 months from January. May be a good opportunity for a man who is contemplating moving to Manitoba. Address, Dr. Louis F. Bouch, Winnipeg.

# Dominion Dental Journal

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Vol. XVIII.

TORONTO, DECEMBER, 1906.

No. 12.

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## Original Communications

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### OUR WINTER'S WORK.

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BY HAROLD CLARK, TORONTO.

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Read before the Odontological Club, Toronto, Sept. 20th, 1906.

At the last meeting of the club, and at the subsequent meeting of the Programme Committee, the most popular topic for our winter's work seemed to be along the lines of materia medica and therapeutics. We all, at some time, passed through the college and gave the subjects their share of our attention, and in the meantime we have given, at least, average attention to these subjects as they have come up at our conventions, or are met with in our journals, and still we are all well aware that there is in this department of our every-day practice far too much of empiricism, the using of agents, not because we know them to be the best possible for the action desired, but just because we have been in the habit of using them or because our preceptor used them. I don't think I shall be challenged when I make the statement that in the department of our practice involving these subjects we are groping more blindly than in any other. If we, as a club, by concentrating our study, investigation and research upon these subjects for a time can replace even a part of our empirical by a more rational practice it will surely be profitably spent. In our consideration of materia medica it will be obviously unnecessary for us to give any time to many details that are important for the ordinary college student who encounters the subject for the first time, such as the nomenclature, source, mode of preparation, etc., but rather to seek a better knowledge of the chemical and physical characteristics of drugs,

to know more positively their physiological actions, and thus ascertain the specific value of each, and know when, where and why to use a drug to the exclusion of all others. In arriving at such information many drugs will invite research by means of laboratory experiments, and at this meeting it is desirable that we divide the subject in some way among the members, so that each department of the subject may have the special attention of one or more of us, and then when these topics come up in the nature of a paper they will have the general discussion of the club. In this way I am sure we can replace much aimless groping by intelligent practice and many failures by success.

For dental purposes our drugs group themselves about as follows: Antiseptics, disinfectants and germicides; counter-irritants, caustics and escharotics; astringents, styptics and hemostatics; anesthetics, sedatives and stimulants; detergents; antipyretics narcotics; purgatives; diaphoretics; emetics, and miscellaneous.

This evening by way of elaborating this paper I shall try to enumerate the most desirable agents under some of these headings and state (what I believe to be) their specific values as well as important peculiarities. If, after laboratory experiments and club discussion, we can agree upon these things, we should be able to arrive at a uniform system of therapeutics for all the commonplaces of dentistry.

To begin with, antiseptics, disinfectants and germicides.

*Carbolic Acid*.—Specific values, anesthetic virtue, accompanying its counter-irritant and sterilizing action. Pecularity.—Though a powerful and highly efficient germicide it does not maintain asepsis well.

*Campho-phenique*.—Specific value: It is modified carbolic acid; about the same germicidal power; is non-cauterant, much more permanent in the maintenance of asepsis; does not seem to discolor teeth as all essential oils do more or less. (*Interjection*.)—For years I have used a similar combination, using another camphor, namely, thymol, and gave it the name thymophenique. I see recently that Kirk describes it and gives it the name thymophen. We could also make another, menthophenique, though from our knowledge of the dental virtues of menthol we would not look for anything of new value in the combination. Comparing the known dental values of ordinary camphor and thymol we have reason to expect that the combination of carbolic acid, with the latter should give us a more useful agent than when combined with the former, ordinary camphor.

*Iodoform*.—Has it any virtue that may not be found in higher degree in several other agents that are innocent of its uncomparable odor?

*Mercuric Chlorid*.—Specific value, high potential as germicide,—may be used as high as 1 in 500, or even higher, and yet is

a germicide in so attenuated a solution as 1 in 50,000, *i.e.*, speaking theoretically if 1 in 500 is in contact with infected tissue the aqueous solution mixes with the aqueous moisture of the tissue, but until it has spread and diluted to 1-100 part of its original strength it is still doing service as a germicide—objection—said to depress or devitalize vital cells in and about the infected area, and increase the work to be done by the elimination mechanism.

*Formaldehyde*.—Specific value lies in the fact that its high germicidal power is due to a gas in solution, and this gas penetrates and permeates where a fluid will not. Its specific objection is in the intense irritation imparted to sensitive tissues.

*Hydronaphthol, or Betanaphthol*.—An antiseptic that is stimulating and non-poisonous, *i.e.*, it would take from 3,000 to 4,000 grs. to be poisonous for a man.

Its specific value in dentistry is in maintaining asepsis accompanied with mild stimulation, indicated in abscess tracts and pyorrhea pockets.

I would suggest that a section of this club that are in touch with the bacteriological laboratory of the college undertake during this winter to ascertain by laboratory investigation the relative values of the above and other agents that belong to the same class.

In the matter of counter-irritants, caustics and escharotics the drugs of important interest to dentists are the strong mineral acids, iodine, silver nitrate, and  $\text{ZnCl}_2$ . We all know the Callahan method of cleansing and enlarging root canals with the alternate use of sulphuric acid and saturated solution of bicarbonate of soda. Would it not be worth the while of another section of this club to investigate the solvent powers of the various acids upon the canal walls? A series of experiments with the aid of a good microscope might reveal some useful facts that are not too well known.

Other experiments with these agents upon connection tissue should teach us the best and most thorough way to void the canals of all pulp fragments that escape the barbed broach.

Several other lines of research in the field of materia medica and therapeutics offer themselves, and if the proposed plan for our winter's work appeals to the club I invite a thorough discussion and consideration of it.



## ANESTHÉSIA: HOW IT SHOULD BE TAUGHT.

BY HERMANN PRINZ, M.D., D.D.S., ST. LOUIS, MO.

Read at annual meeting of the Institute of Dental Pedagogics.

The teaching of anesthesia in dental colleges should, for teleological reasons, be embodied in the last year's studies of the curriculum. Prior to entering upon a detail study of this important branch of dental training it is necessary for the student to acquire a comprehensive knowledge of the fundamental teachings of medicine. A full understanding of the therapeutical effects of the drugs employed as anesthetics necessitates a minute acquaintance with their chemical and physical nature, a working knowledge of anatomy, physiology and pathology and a sufficient conception of psychology.

As an introduction to the course proper, a few brief but concise lectures on the history of anesthesia will serve this purpose admirably. The all-important fact that an American dentist was the first successful administrator of a drug for the purpose of abolishing pain during surgical operations will forever be the pride of our profession and our country. Following this historical sketch, the law in its various conceptions relative to the administration of anesthetics should receive ample explanation. Great stress should be emphasized in a thorough discussion of the standing of the dentist as a member of a distinct profession and as a medical specialist, if such a distinction is permissible. At this opportune moment some light should be thrown on the important question: The dentist as an expert in the courts of law. While this very phase of the subject more properly belongs of the department of jurisprudence, it nevertheless bears a close relationship to the point in view. Dr. Edmund Noyes, of Chicago, Ill., recently read an interesting essay on this very subject before the last meeting of the Missouri State Dental Association, entitled, "The Administration of Anesthetics by Dentists," which is very noteworthy in this respect.

One of the fundamental laws of self-protection in the administration of an anesthetic requires that a third person should always be present at such moments, and that, logically, brings up the question of proper assistance. An admirable paper on this very subject by Dr. M. L. Rhein, of New York, entitled, "The Dental Nurse," is highly instructive and well worth read-

ing. The preparation of the patient prior to the administration of an anesthetic is next considered, which is followed by a discussion on the armamentarium with a demonstration of the various appliances and apparatuses employed for and during anesthesia or as a means of safety.

The examination of the patient proper consists of obtaining as much as possible of his precedent history, a general inspection and palpitation, and the auscultation of the circulatory system. This physical examination should serve as a guide-post for the selection of the proper anesthetic. As a sort of preamble a short, selective review of the physiological functions of the brain, the respiration and the circulation, including reflex action, is now indicated. Pathological disturbances which are liable to bear a direct relationship to the action of the anesthetics must also be carefully noted. The secondary actions of the anesthetics, the accidents, the means and methods of their prevention, and the remedial agents employed for such purposes require much thought and careful consideration.

Reaching the anesthetics proper, the subject should, according to the mode of their administration, be divided into two definite groups, viz., general and local agents.

The discussion of the individual narcotic agents should now be taken up in rotation, such as chloroform, ether, ethyl chloride and ethyl bromide, their combinations, such as the A.C.E. mixtures, somnoform, etc., nitrous oxide and its combination with oxygen, and so on. Their chemical and physical properties and therapeutical effects should be demonstrated and, if possible, animal experiments performed, which will materially help in producing lasting impressions upon the mind of the student. A warning note should be sounded to be especially careful in experimenting with so-called "new and harmless anesthetic" compounds upon their own *clientele*, because it should always be remembered that no matter what the nature of the anesthetic is, if it is substituted in the organism for an element indispensable to life, it must eventually kill. The college extracting rooms furnish ample opportunity to demonstrate the anesthetic effects of nitrous oxide and those compounds which on account of their rapid action and comparatively little secondary effects are especially indicated for the shorter dental operations. Narcoses of chloroform, ether, and mixtures of a similar nature, are usually witnessed in the clinics of oral or general surgery.

The production of insensibility to pain in a circumscribed area of tissue is usually referred to as local anesthesia. This process may be brought about by the application of topical

remedies or by means of hypodermic injection of certain drugs or chemicals which possess definite anesthetic properties. Since the introduction of cocaine into therapeutics, this phase of obdunting pain has gained much prominence in the hands of the dentist, and much of the dreaded horror of the operating chair has lost its significance.

Many derivatives of cocaine and synthetical compounds of a similar nature have been placed on the market within the last score of years. None, however, has successfully substituted this most valuable alkaloid. The danger of cocaine poisoning is materially lessened since the discovery of suitable agents which inhibit its toxic properties. I refer here to the various preparations of the active principle of the suprarenal glands. Besides cocaine, tropa-cocaine, the eucaines, stovaine, orthoform, and others, should receive suitable mentioning. The local refrigerants, viz., anesthetics acting by abstracting heat from the tissues, are valuable adjuncts under certain conditions. As a whole, local anesthetics should be considered very much from the same standpoint as the general narcotics.

In teaching anesthesia it matters little if the subject is treated as a course *per se*, or if it is classed under the headings of therapeutics or oral surgery, or if it is a part of the work of the demonstrator of extraction—only let the subject be taught in such a manner so as to receive its full recognition as an integral part of the dental curriculum. Dr. Noyes' inquiry into this question, as outlined in his paper previously referred to, has brought to light a rather deplorable condition of affairs, not only in dental schools, but medical colleges as well. There seems to be ample room for improvement.

The subject of anesthesia commands quite an extensive literature of its own. Aside from the many essays published in professional periodicals, which are by far too numerous to mention here, the following list comprises the more important and more recent publications

Probyn-Williams: "A Practical Guide to the Administration of Anesthetics." „

Luke: "Anesthesia in Dental Surgery."

A. de Preuderville: "Anesthetic Difficulties and How to Combat Them."

Hewitt: "Anesthetics."

Patton: "Anesthetics and Anesthesia."

Underwood: "Notes on Anesthesia."

Probyn-Williams: "Golden Rules of Anesthesia."

Hewitt: "The Administration of Nitrous Oxide and Oxygen for Dental Operations."

Guilford: "Nitrous Oxide."

Hankel: "Handbuch der Inhalations Anesthetica."

Seitz: "Die Zahnarztliche Narkose."

Seitz: "Die Zahnarztliche Localanesthesia."

Thiesing: "Local Anesthesia und ihre Verwendung in der Zahnarztlichen Praxis."

Peckert: "Ueber Localanesthesie."

Sauvez: "L'Anesthésie Locale Pour l'Extraction des Dents."

Viau: "De l'Anesthésie en Chirurgie Dentaire par les Injections de Cocaine."

Pérez: "Estudio Sobre Anestésicos Locales en Odontologia."

Nevius: "The Discovery of Modern Anesthesia."

McManus: "Notes on the History of Anesthesia."

#### DISCUSSION.

At the conclusion of the morning session, the President and the two gentlemen who were appointed as the committee on Dr. Prinz's paper, requested that Dr. Oliver and myself act as the committee to whom the paper should be referred. We have taken it up, and I may briefly state that while we have not formulated any statement, we think the phases that should receive our attention are those bearing chiefly on the use of anesthetic agents. Summarizing the paper, we find the doctor speaks first of lectures to be delivered on the history. He says "a few lectures." It is my opinion that one lecture on the use of anesthetics and anesthetic agents is sufficient; I hardly see the advisability of giving a number of lectures. They may be read by the student, and the use of those agents demonstrated. The subject in the main is a very important one. The medico-legal aspect has claimed considerable attention of late, and it is still one that has not been settled in the minds of many. Just how far a dentist should go in the administration of anesthetics has been a question of difference of opinion among men. I believe that the dentist has just as good a right, legally and otherwise, to administer anesthetics as a physician, and in order that he may exercise that right if it were questioned in court, the answer must come as to his qualification. It must be settled as to how thorough his instruction has been; and that brings us to the question of physical diagnosis—the capacity to recognize those conditions in which the administration of anesthetics is contraindicated—what physical condition of the heart, the lungs and the nervous system would make it improper to use an anesthetic. Legally the den-

tist must be qualified to have that capacity; otherwise he must call to his assistance a medical practitioner who is qualified. If the medical practitioner is not qualified, he is not helped at all; so that must be considered. The dentist must have knowledge of the signs of physical disease; how to make examinations of the secretions; how to determine whether renal diseases exist, which would contraindicate the use of ether or other anesthetics. The student should be taught not only these physical signs of disease, but how to conduct the procedure of administering anesthetics—how to select anesthetics best adapted to special cases; how to administer them with the highest degree of safety; how to make use of remedial agents to resuscitate a patient who may fall into collapse. This he must be taught and must know, else he is open to prosecution and punishment for the want (as the courts put it) of the ordinary skill that is necessary to conduct the administration of anesthetic agents. He must be familiar with all the remedies employed in resuscitating a patient, the question of artificial respiration; and when the patient is on the verge of collapse, how to resort to agents to revive him. This must be taught with that degree of care that would be employed in teaching him how to insert a gold filling—not by a lecture, but by practical demonstrations, that he may see exactly what to do under certain conditions. For that reason, of great value to the student is the surgical clinic, where this is demonstrated all the time. While this is not exactly a report of the committee, it is some matters we have reviewed. One feature of the use of anesthetics in dentistry I deplore; and while it has nothing to do with the teaching of the students, it is part of their instruction. Dentistry has cheapened the use of anesthetics, has reduced the fees for the use of them to insignificance in no sense adequate to the risk and responsibility and care that must be employed to properly administer them. That stands in the way. The profession seems to be deluged now and then with those agents, advertised extensively in a way that is not in strict accordance with fact, because those who put them on the market declare they are harmless. There never has been a patient anesthetized in this world to a state of complete anesthesia who has not been placed in a dangerous condition. Every time an anesthetic is administered, no matter what it is, the man who administers it is taking upon himself a great responsibility, and the possibility of the collapse and loss of the patient. I have lived with anesthetics most of my life. I have administered them thousands of times, and yet the older I grow, and the more I do in the use of them, the more I feel the responsibility,

and I never administer an anesthetic without a feeling that this may be the patient that may go. I regard Dr. Prinz's paper as an excellent one. It is one that might occupy the time of this association all day in discussing it; and if we were to enter into detail as to the method of administering anesthetics, which the paper does not call for, it would consume several days. It is enough to say that our schools in the past have not given the subject the thought its importance deserves. The schools have not dwelt sufficiently on the question of physical diagnosis, and when our young men go out to enter on the very great responsibility of being practitioners, the question of administering anesthetics must be considered. We regard anesthetic agents a kind of heirloom in our profession, because the world is indebted to the dental profession for this great boon to suffering mankind—the presentation to it of artificial anesthesia. So it is ours; we need not appeal to any other profession to know whether we have a right to use our own; but we must qualify ourselves to use our own, and qualify the young men who take upon themselves this great responsibility of life, so frequently is the administration attended with the loss of a patient. We read too frequently that a patient died in the dental chair. The question of position is very important, how to pose a patient with the greatest degree of safety; and we must impress upon our students that they should never administer any anesthetic—it would be better to say even nitrous oxide gas—in an upright position. Better let the patient recline backwards, and especially should this be done in the administration of chloroform or ether. As to local anesthetics—cocaine—I do not know much about it; I might say I do not know anything about it. I have never seen a man (and I have talked with many) who can tell you what the minimum dose is that may be used with safety. They do not know, because a patient will sometimes collapse when a fraction of one per cent. is used. So I say, and if I am wrong I would be glad to be corrected, I do not know the man who can tell how little can be administered with safety. Therefore, I do not use it; I do not like to use a thing that I know nothing about. We are deluged with these proprietary remedies or anesthetics. It says in the journals, "May be used with safety," and our students are trained in a way to think they may use certain agents with safety. There is no absolute safety connected with the administration of any of them, and I wish I had the power of wiping out of the journals those advertisements set forth as sure cures, etc., because such statements are not true. We must train our students to guard against these things. It should

be taught positively and specifically that they must not listen to those stories told by manufacturers of drugs, that certain things will "surely cure." We have a masterpiece in this paper of Dr. Hermann Prinz, who is always capable of writing masterpieces; he is a genius in his way. I feel greatly benefited by this paper in outlining how we should teach our students these subjects. It is one of the most important matters before the world to-day. Recently articles have appeared on the use of chloroform and its effect on the system. It has elements that bring about certain abnormalities of the liver leading up to fatty degeneration which perhaps some of us do not realize. I would like to state that Professor Bevan, of Chicago, has recently produced an article on the use of chloroform and its effects on the liver, that I advise you all to read. It is very valuable from a scientific point of view, as well as from a practical point.

I have listened to this excellent paper  
**Dr. R. T. Oliver,** with a great deal of interest and must com-  
**West Point, N.Y.** mend its careful consideration to practi-

tioners, as well as teachers and students of dentistry. It presents a subject that to a large degree fails to particularly interest the general practitioner of dentistry, because he seldom finds it necessary to use the agents of general anesthesia, depending either upon the patient's family physician or one of his medical friends or neighbors when a case presents requiring the use of such drugs. The phenomena of anesthesia and the specific effects of anesthetics upon the human subject should be taught thoroughly to all dental students, that they may have a good, comprehensive knowledge of the entire subject before leaving college and entering practice, where they are compelled henceforth to rely upon their own resources. We all know that, as a rule, students are prone to rely too much upon their professors or demonstrators as long as contact can be maintained with them, especially in regard to subjects that do not particularly interest them as dentists, or that seem to come within the jurisdiction of the profession of medicine. I am of the opinion—in contradistinction to Dr. Brophy—that a general history of anesthesia and anesthetics should be taught with this subject, going back to the most primitive methods of administering the first drugs used for the purpose and gradually coming up through the period of later discoveries, giving due credit and honor where it belongs, afterward dividing the subject into two parts, general and local anesthetics, taking up the individual history of each of these drugs and then going into the

minutest detail as to their specific actions, effects, methods of administration, good and bad results, methods of resuscitation, etc., taking particular pains to explain the bad results, for while almost any one can handle an easy case, the most skilled amongst us would hesitate to care for a bad one. It seems to be a recognized fact that the administration of a general anesthetic in a dental chair is fraught with more than the usual amount of danger, due entirely to the poor position the patient is required to assume in the effort to get the head into a convenient position for more dexterous manipulation. Our medical brethren have long since called us "fools" to run such risks, and until we adopt some means of using either a perfectly prone position with our chairs, or a surgical table for extracting teeth or performing the usual simple surgical operations within the oral cavity, we must expect to be censured in the above forcible manner. I believe lectures on this subject should be immediately followed by demonstration before the class, in which the student may see the actual conditions produced by the drug, the method of its administration, and the methods and means of resuscitation, both by Sylvester's method and the use of drugs as heart stimulants. In my opinion the question of local anesthesia, in so far as pertains to the practice of dentistry, especially to the extraction of teeth, should receive special study by our students. We all know that many of our familiar drugs or their compounds are efficacious agents to painless operations. I am not in favor, however, of hastily taking up new and unknown remedies, mostly proprietary compounds with secret formulas, where a lack of knowledge of the constituents renders the operator absolutely impotent and precludes his ability to combat the baneful effects that may occur. It is rather doubtful if any court in the land would exonerate a man from blame, not to say criminal carelessness, for fatal termination of a case following the use of a local anesthetic, the ingredients of which he knew nothing of. As we can never tell exactly what the effects of a local anesthetic will be, we must be prepared to meet the unlooked-for results and successfully combat them, in order to save, perhaps, life, reputation and future peace of mind.

I want to speak of the importance of having a commission or a committee of this body to whom all these matters can be referred for investigation, they subsequently to report. We are being deluged with pharmaceutical preparations, and this body should have a committee for the purpose of

**Dr. T. W. Brophy,**  
**Chicago**



making a careful investigation of them, and report the findings, so we may know all about them, and not have men all over the country guessing at them or depending upon the statements of the manufacturers.

**Dr. A. G. Friedrichs,**  
**New Orleans, La.**

I did not have the pleasure of hearing the paper, but I think we should teach this branch as thoroughly as possible. When it comes to the demonstration of any general anesthetic, we ought not to fill our students full of presumption and let them try it. I graduated in medicine, and I have administered chloroform and other anesthetics, and I tell you candidly I do not know how it is that I did not send some of these poor unfortunates to the realms beyond, with my knowledge of anesthesia at that time, and I was an intern at the Charity Hospital of New Orleans for two years. The method of administration of anesthetics at that time was of such a character: that it would be considered to-day absolutely criminal. Of course we ought to instruct our students, and of course you will say we do, and God knows I do in our school; but that will not make anesthetists of them. They cannot get sufficient general experience to be able to carry on this subject with discretion, not to say with skill. I think we had better not fill them full of presumption, as I said before, and let them go out and handle this subject, because they will live to regret it. Thank God I was preserved from the regret portion of it, but as I stand here, and know the modern methods of handling these drugs, I do not know how it was, except the Lord preserved me, that I did not send some poor unfortunates into eternity.

**Dr. F. D. Weisse,**  
**New York**

The paper read this morning is a most admirable syllabus of the subject of anesthesia as it should be taught to students. As bearing on anesthesia Dr. Brophy said "that students should be taught physical diagnosis." I would go only a certain distance with the doctor on that point. As a matter of fact the dental student has neither the time nor the opportunities to so familiarize himself with the phases of physical diagnosis as to make it absolutely useful to him in deciding as to the administration of anesthetics to a given patient. To be a physical diagnostician, able to place his ear to a chest and say, positively, "This patient can or cannot have an anesthetic administered to him," one must have a trained ear in normal and abnormal conditions. I believe every dental student should

be trained to recognize a normal heart's action, normal respiration and a normal pulse. This can be accomplished because he has his fellow students upon whom these conditions can be realized. At the New York College of Dentistry students have for many years been trained in this way. One who has realized what the normal should be, if he puts his ear to a chest, or his fingers to a pulse, and hears or feels something that he did not hear as normal heart's action or respiration, or feel as a normal pulse, he can send the patient to a physician for diagnosis of the cause therefor before administering an anesthetic. We do not think the dental student can be advanced beyond the appreciation of normal conditions. The all-important question of resuscitation is called for in given conditions; therefore, the dental student should be taught all agencies and procedures used therefor, more especially the several methods of artificial respiration. At the New York College of Dentistry students are thoroughly drilled in applying to each other the several methods of artificial respiration and the administration of restorative remedies by hypodermic injections and the use of all other means are dealt with. I had a peculiar experience in being called upon to act as one of a medical jury, in the case of a dental surgeon here in New York in whose office a patient died during the administration of nitrous oxide. It gave me an insight as to the legal responsibility in the administration of anesthetics, namely, what a practitioner was called upon to answer. The unfortunate dental surgeon was *sifted*: As to what theoretical knowledge he had of anesthesia? What experience he had had in the administration of anesthetics? What he knew of the methods of treating a patient in case of an emergency? Whether he had a battery in his office, ready for use, and this, that and the other remedies to meet emergencies? He was examined as to what he knew about artificial respiration and if he ever had actually practiced artificial respiration upon a human being? It was found that he did not have any means of resuscitation in his office, and he exhibited an entire *innocence* of what to do in case of an emergency. He did not even know whether to lay a patient flat on his back or to sit him up. This occurred some twenty-five years ago or more. The students should be told: "When you take the responsibility of administering an anesthetic to a human being you must have everything at hand for any emergency that may occur, and you must possess the knowledge of what and how to apply means and methods to meet the same. If you do not and cannot fulfil these requirements, and anything happens to your patient, you will be held legally

responsible, and when you are before a jury in a trial for malpractice, you will be asked if you had all necessary agencies at hand for emergencies, and it will be determined as to whether you know what and how to apply restorative measures in given conditions." I have always had misgivings as to whether it is altogether right to foster too much presumption of ability on the part of the dental graduate to administer anesthetics. I hold that we should teach that the dental graduate should never administer chloroform or ether. Let the patient's physician endorse the administration of either of these agents and let him administer it, the dental surgeon performing the dental operation for which the anesthetic was called for. As to nitrous oxide, its history makes it, for the dental profession, their peculiar anesthetic. When we realize the thousands of cases where it has been and is administered without accident, we are justified, as institutions, to commend its use and to educate our students how to administer it. As to local anesthesia, except by freezing, I am afraid of it. As Dr. Brophy has said, "What is the minimum dose to be given to the man who walks into the office?" Cases too often occur where a patient has to remain in the office the balance of the day, and sometimes the night, in recovering after accidents from using cocaine. In closing, I ask the gentlemen present if they think our institution would be justified in sending out our graduates with the statements to them: "You can use cocaine with perfect safety in your dental operations. Use it so and so. You will have no accidents from it."

I have collected statistics of over 30,000 cases of cocaine anesthesia. I began its use hypodermically, when there was only a French preparation—a green-looking powder—which was donated, by-the-way, it being very expensive, and worth about \$300 an ounce at that time. I used that vile stuff in a saturated solution. I had a clinic in the Charity Hospital at that time, and I still have a clinic at that institution; I do not remember just how long ago it is, but certainly over twenty-four years. That same agent was used in a 20 per cent. solution at the Nose, Ear and Throat Hospital for removing growths in the air passages, but it had to be abandoned because of the deleterious effect it produced. I used it hypodermically, without any idea as to the effects. We were living in the atmosphere at that time as to the beauties of this anesthetic agent. I injected it in various quantities—of course it depended

on the construction of the gum tissue. If there was considerable connective tissue, the patient got a good dose; if it was dense and resistant, he did not get as large a dose. It averaged from five minims to twenty. There is another instance where Providence has stood in good stead for me. I look back at that experience with fear and trembling. It looks like a chimerical apparition. I was brought to a standstill by the first reported death from cocaine anesthesia, and that was for removing some hemorrhoids. The doctor, an Italian, in his clinic in Naples, had injected about three ounces of a saturated solution of cocaine in this poor unfortunate's rectum. He never did more than turn over. Any one who has followed up the history of cocaine will remember this, because it gave the medical profession a sudden jolt. We were living in this beautiful atmospherical hallucination which I described to you. Mertz was the first man in the field to get up the crystal in its pure form. Then we began to appreciate the fact that cocaine was really a dangerous agent, and that some people died from its administration. I began to reduce the percentage of my solution. I began first with a 20 per cent. solution, using five minims. Of this solution I made as many as three thousand injections a year in the Charity Hospital alone, and I never have had an untoward result, and this number of applications was kept up for over twenty-five years, gradually reducing the percentage until to-day I never use more than a 2 per cent. solution, which I find of sufficient strength to give the best result without risk.

Dr. Weisse says the essayist failed to say anything about the necessary remedies and precautions that should be taken. He does say in his paper that the necessary precautions should be taken. I simply want to say in defence of the man who wrote it, that he can give you even a better paper on precautions than he did on this subject, and you would all think so too if you could hear him in his classes and see the anxiety the man places upon teaching his students the all-absorbing thought of the care that should be taken. It seems to be a load upon his shoulders. I thought I would take this opportunity to thank the gentlemen on behalf of Dr. Prinz for their kind acceptance of his paper before this body. He is earnest and honest, and if you should want a paper on the preventatives, I am satisfied he would be more than delighted to give it to you.

**Dr. R. T. Oliver,**  
**West Point, N.Y.**

The remarks of Dr. Friedrichs upon the follies of his past life are truly refreshing. His claims to closer kinship with his Maker must be true, for he states that although having administered anesthetics on an average of over ten times a day for the period of one year, he has never experienced any bad effects. Would that some of the rest of us less fortunate ones knew the secret of that "closer affiliation." I have always been a "stickler" for teaching anesthesia and anesthetics to dental students, as thoroughly as medical students are taught, for they are certainly just as capable of learning, and in a measure will have just as many opportunities later to resort to the use of these dangerous drugs as the average medical practitioner, with perhaps a great many more cases for local anesthesia. Therefore, we should prepare them as best we may to meet these opportunities, for we know that as soon as the student leaves college he will begin to do as he pleases in this regard, as with other things in which he has been schooled (ethics, for instance), and if he finds a competitor across the street who has built up a good practice through medium of painless extraction with a local anesthetic, and realizes he has not learned anything about such drugs, he immediately begins to look with discredit upon the shortcomings of his Alma Mater. So let us do with this subject as with others of our curricula, teach it thoroughly, that students leaving our institutions may be as well equipped in the fundamental knowledge of their life's great work as it is possible to make them.

**Dr. F. D. Weisse,**  
**New York**

I regret that my remarks could be construed that I have any doubt as to the ability of the dental student to learn all the medical student can learn. I realized many years ago—from the dissecting room to the final examinations—that a dental student can achieve as much in any work or on any subject as a medical student; but I repeat that dental institutions should not give the dental graduate the idea that he is authorized to administer general anesthetics other than nitrous oxide. In continental countries abroad the law does not allow the dental surgeon to administer a general anesthetic other than nitrous oxide, except in the presence of a medical graduate.

**Dr. A. R. Starr,**  
**New York**

I think Dr. Weisse leaves a wrong impression in your minds. The students in the New York College of Dentistry are taught the use of cocaine, but cocaine has not been administered hypodermically in our infirmary because

of the risk run in allowing students to handle such dangerous drugs, and on account of the danger of bad after-effects. They are taught these methods theoretically, but not clinically. They are taught how to treat accidents that may arise from the use of those remedies. They are also taught that there are comparatively harmless solutions which can be used hypodermically for the same purpose, such as the saline solutions or peroxide of hydrogen.

We have found in the Ohio School that  
**Dr. H. T. Smith,** it is advisable to divide the subject of anes-  
**Cincinnati, Ohio** thetics, together with that of extraction,  
into two different years. Extraction of  
the teeth is taken up by the freshman students, and carried  
through the entire freshman year. After the holidays the sub-  
ject of nitrous oxide is presented to the freshman student,  
because in his extracting work he necessarily comes in contact  
with this anesthetic. The subject of general anesthesia, chloro-  
form and ether, and the other general and local anesthetics, is  
taken up as part of the oral surgery lecture scheme in the third  
year. We feel that the freshman student coming into the ex-  
traction room as he does, and observing extractions under  
nitrous oxide, should be made familiar with that anesthetic.  
When the subject of nitrous oxide is presented to him, he is  
given its history. If in any dental school, at any time, we have  
an excuse for teaching dental history, it is certainly in connec-  
tion with nitrous oxide. Dr. Brophy mentioned the term  
medico-legal. It occurred to me, and as a suggestion for our  
committee on nomenclature, that the term "dento-legal" might  
be used in that connection. One of the difficulties we encounter,  
in teaching anesthetics, is the lack of a text-book that covers the  
course satisfactorily, but that is also true of many of the depart-  
ments in the dental college curriculum. We need a book somewhat  
smaller than Turnbull's "Anesthesia." In England there have  
been published two excellent ones on the subject within the last  
year or two. Such a book should devote several chapters to  
physical diagnosis, and the subjects of general anesthesia and  
physical diagnosis might be considered together, with advantage,  
by the teacher of oral surgery.

### THE NEW TARIFF.

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The new tariff promulgated by the Federal Government, and which has just become operative in November last, is of more than passing interest to the dental profession. The dentists and the supply houses in Canada have long had a grievance with the framers of our tariffs, and this last one appears to be more unsatisfactory than ever. When we remember the long years during which we paid duty on artificial teeth, we feel indignant. When we now look over the list of articles and instruments we use, which are not, nor will be in our time, manufactured in Canada, and on which an excessive rate of duty is levied, we feel that the makers of our laws are somewhat in error.

Most of us admit that an adequate tariff in a young country is necessary, but no more than is adequate to protect the interests concerned and supply a fair proportion of revenue.

In comparing the new tariff with the old I find that the duties have been increased on the following lines: Cement, rubber, amalgam, wax, electrical goods of all descriptions, engines, machinery, such as lathe heads and wheels; bottles, glassware, abscess cures, liquid anesthetics, felt wheels, brush wheels, gold and numerous other small goods. Goods of this kind, we must not forget, were dutiable in the past at an average rate of  $27\frac{1}{2}$  per cent. *ad valorem*, with one-third added if imported from Germany or manufactured by Germany. It seems difficult, therefore, to understand why an already high tariff on these lines should be increased. Dental instruments used only in the mouth, no matter of what material, were, in the past, ruled as free goods. As a consequence a great list of instruments under this category have sold in Canada at same prices as at place of export. The new tariff, however, rules that dental instruments of metal only shall be free, and, therefore, the prices of innumerable articles which are used exclusively in the mouth, but are not solely of metal, will advance in price 30 per cent., with a corresponding loss to the Canadian dentist. The situation has been brought to the attention of the Government at different times, but without any great results. If the true meaning of the word instrument were to be accepted by the Government and applied to the tariff in its new dress, practically all dental articles, excepting supplies, would be free. The Federal authorities give with one hand and take away with the other. They say that instruments of metal are free, and then promptly put their own interpretation of an instrument on the clause, which, according to all recognized authority, is not correct.

The majority of articles, instruments and supplies used exclusively in the practice of dentistry are not manufactured in the Dominion, and it is not right or just that the excessive duties now prevailing should be exacted. The Government is going seemingly on precedent in taxing practically all dental goods, and although up-to-date representations have been made to them, the calf path through the primeval wood is still pursued. The duty on artificial teeth was taken off in April of 1905; yet, porcelain body, or, in other words, the raw material for making teeth is dutiable—putting a handicap on our own labor.

When duties were levied on dental instruments, etc., years ago, the dentists of that time resented the tax, but did practically nothing toward removing the trouble. Should this new high tariff remain unchanged, the temptation for frequent visits to our cousins south of the 49th parallel will be greater than ever, and we will be requested to execute commissions for our friends and friends' friends. Though there is no justification for this practice, yet on goods that are not manufactured in this country a duty should not be levied, which makes it profitable for one to go to the United States for a trip. Although the capital interested in the dental business has made representations to the Government, it behooves the members of the profession to express themselves to their representatives to the end that some of these unjust taxes be removed.



## Selections

### A PLEA FOR THE MORE CONSERVATIVE USE OF ANESTHETICS, NARCOTICS AND SEDATIVES IN DENTAL PRACTICE.—*Concluded.*

BY C. P. PRUVN, M.D., D.D.S., CHICAGO, ILL.

Read before the Illinois State Society, May, 1905.

DR. G. V. BLACK, (Chicago) : I regard this matter of the relief of pain as a very important subject. Pain is never enjoyable. It is to be avoided as much as possible, and yet we must decide on a line where we should stop the effort to subdue pain by any of these medicinal agents. It seems to me that we owe a duty to the community which we serve in teaching the necessity for a certain healthful amount of endurance. The idea that people may avoid pain by this or that procedure seems to seize upon folks until they demand that which is not best.

I have been acquainted with anesthetics and the giving of anesthetics and the disposition of people toward anesthetics for fifty years. In 1856 my brother, with whom I was studying medicine at the time, said to me, "We must do something to break this craze for chloroform," and he directed me to procure some cats and dogs. We experimented a little with them, and then asked some persons to see some experiments with them, and we killed them very quickly, showing plainly that we were handling drugs that were dangerous.

We may say that an anesthetic is not dangerous, and I have often qualified that when speaking to my patients by saying, "No, it is not dangerous; neither is it dangerous to take a ride on a train, but some people get killed in taking rides on railroad trains." Qualified in that way, we may say that anesthetics are not dangerous, but they are always dangerous. Furthermore, cases have come up over and over again with me personally where persons did everything in their power to conceal the danger to themselves, and this will occur in dentistry, perhaps, oftener than anywhere else.

It is not wise for us as conservators of the interests of the public to permit the use of an anesthetic for every little pain that comes up, but rather we should inculcate in these communities the necessity that a certain amount of pain is to be borne. This will do much for the good of the community.

To the question, Who should give anesthetics? I should answer, the man who knows how, no matter whether he is a dentist or a physician or a surgeon. There are some surgeons I have known—very good surgeons, too—who had no business to handle anesthetics at all, because they were absolutely careless in

the handling of them. A man may know ever so much about a thing and become so utterly careless as to be incapacitated from doing it properly. As to selecting the man who knows, we would not always select the man who has given anesthetics the oftenest. It requires a close insight into general pathological conditions and danger signals. None of us like to give anesthetics to very fat people. We don't like to give anesthetics to persons whose nervous systems have received a great shock from disease or injury; and yet sometimes we must give them under very adverse conditions. The necessity should govern very much, not the whim or the disposition to avoid a little bit of pain.

The question of teaching anesthetics in the schools has been raised. I think it is true that dental schools are doing more teaching of anesthesia than the medical schools to-day. There was considerable inquiry made a short time ago, and the medical schools claimed to do so much and so much teaching of anesthesia, but when we came to sift it down it was the mentioning of anesthesia occasionally in teaching materia medica, and in this and in that, and there was really no fixed course of lectures on that subject, no fixed demonstrations for the purpose of teaching anesthesia. In clinics, anesthesia was used, but the patients were generally brought into the room anesthetized and the students witnessed the operation under anesthesia. Gentlemen, I do not regard that as the teaching of anesthesia at all. When we undertake to teach anesthesia we are supposed to have a regular course of study of the questions involved, not only as to the anesthetic itself, but of the pathological conditions which prohibit its use, the pathological conditions which might arise that render it dangerous, the danger signals that give warning, and all this class of subjects connected directly or remotely with the use of anesthetics.

Now it is true that dentists are giving anesthetics more than any other class of professional men, except the professional anesthesiologists. I am very glad indeed to find that this specialty of the professional anesthesiologist is coming to the front, and that men are being employed because they have studied this subject theoretically and practically; but I wish to emphasize again, Mr. President, before I sit down, that every professional man, every dentist, every physician and every surgeon as well, has a duty to perform in teaching men and women that it is their duty to themselves to bear a certain amount of pain, to put up with it because it is for their good. (Applause.)

DR. T. W. PRITCHETT (Whitehall): I wish to say I think *confidence* is rather a good anesthetic—confidence and belief in the knowledge and skill of the operator. As an instance of that I once had occasion to call upon the last speaker (Dr. G. V. Black) to do a little service for me involving the resetting of a crown where the gum had become embedded between the crown and the root. He informed me that the gum needed to be excised or shortened, or something done with it to get it out of the way; it would bleed and that would make trouble. He proposed a plan which at first I did not consider favorably. He was going to anesthetize the part, and do it right, without hurting me. He

began to heat a piece of steel of considerable size in a lamp, before my face, and said with that he would remove this obstruction very nicely, and he began heating it up, and I watched the operation of heating, and as it began to glow I had a feeling of apprehension, and I began to quiz him a little. I was a little bit skeptical. I was something of a doubting Thomas, and I asked him these questions: "Have you ever done this thing before?" and "How did they like it?" (Laughter.) He said to me in a way that was convincing that he had, and I consoled myself with the idea that he would not impose on a youth like me an untruth, and I said, "Go on with your heating," and he did heat it, and he put it on, and I was looking at him. He got it there, and it didn't hurt. (Laughter.)

DR. PRUYN, in closing the discussion, said: I thank you for the very cordial reception you have given my paper. Dr. Haskins called attention to a case of death in Chicago, and as I am quite familiar with that case, I will state something about it. The dentist was a young man of limited experience, who called a physician into his office to administer the anesthetic. The dentist had nothing to do with it whatever. The physician examining the case administered the anesthetic and the patient died. The case came up before the coroner's jury, who exonerated the physician and censured the dentist. He was a young man, no particular friend of mine, but as soon as I heard of it I went to his house. He told me the circumstances. I put my arm around him, and said: "My young brother, I am going to stand by you. I am going to have every dentist in Chicago stand by you. I am going to bring this matter up before the Odontographic Society and have it properly ventilated." It did that young man a world of good. He thought he would have to leave Chicago, as it would destroy his practice. I simply recite that to show how we can help our brothers in such an emergency as that. Our brother, the young man who seems overconfident in the use of anesthetics, ought to be reminded that many of the deaths from chloroform and ether have come from those cases that seem to be the most promising. Don't take things for granted. Be careful, be careful, be careful. To our friend, Dr. Bentley—he smiles now. I used the word "dangerous" regarding those headache preparations. I said that the coal tar headache preparations are doing very great harm, and are dangerous. I am sorry that subject has not been touched upon, because there is a field for us to exercise our judgment. The physicians of the land are recognizing the harm that is coming from the indiscriminate use of these coal tar preparations. Dr. Arthur Black spoke about the normal salt solution for local anesthesia. I have produced local anesthesia with common warm water, without any salt even. The pressure of the water on the nerve filaments will oftentimes cause anesthesia. I have produced unconsciousness with ten drops of chloroform. Was it the chloroform? No. What was it? We all employ direct suggestion. I used the ten drops and said to the patient what I was going to do; that I was going to use very little of the

drug, and that she was going to do what I told her, and the operation would be performed nicely.

DR. BENTLEY: What do you call that?

DR. PRUYN: I call it the law of love and kindness. I always failed unless I could get the complete confidence of the patient. A few weeks since a gentleman in our building, another dentist, called me up hastily and said: "Dr. Pruyne, I have a case down here that I am afraid is a case of cocaine poisoning." I said: "What are you going to do?" He said: "I wish you would come down at once." I excused myself to my patient and went down at once to see him. The patient had come into the office from the hands of some cheap establishment. She said she had had two or three teeth extracted, and was all right when she left the office, but after she got out on the street she had symptoms of cocaine poisoning which were very noticeable. She went into the office of the dentist, who wasn't very familiar with the symptoms, and wanted help. I took the case at once, and injected morphine, and helped her out of it. She was sometime recovering. We did not know it was cocaine poisoning, but the symptoms were so marked that the only thing to do was to go on the supposition that it was, and inject the antidote. We did it with satisfactory results. This was a large, fleshy woman. It was about two o'clock. She had had no lunch. This injection had been made upon an empty stomach. I stated in my paper that cocaine should always be administered on a full stomach. One of the first symptoms is difficult breathing. Cocaine paralyzes the centres of respiration. Another is the peculiar apprehensiveness of danger. There was a condition approaching syncope and a fearful condition or apprehension of approaching death, as if she asked: "What can you do for me; I can't breathe; help me, help me!" That is the thought. You see this condition of things in the lower animals. When you give it to a dog you see the same symptoms. The poor dog will come and look up at you as though he were having trouble with his breathing. "Help me, help me to breathe!" Some years ago I went into this subject very exhaustively, and if you will read the report of the twenty-fifth anniversary of the Chicago Dental Society you will find it more in detail than I can explain it now.

## A CONSIDERATION OF THE "PERIDONTIUM" OR THE MEMBRANE WHICH HOLDS A TOOTH IN ITS SOCKET.

BY PROF. GEORGE W. CUPID.

Extrrat from a lecture upon the "peridental membrane," delivered in the regular course to the students in the Dental Department of the Medico-Chirurgical College of Philadelphia.

The peridental membrane is formed from the mesoblastic layer or connective tissue and is resolved from a part of the tooth follicle or sac in which the tooth formation takes place. It is at first a soft cellular structure and its principal function is the formation of the true bone of the tooth or the cementum. This is the root-covering and the softest of the three portions of the calcareous matter of the tooth. The enamel is hardest; the dentine, while by far the largest part of the tooth, is much softer than the enamel; and the cementum is the softest; so the tooth is hardest upon its outer surface and softer as it approaches the deeper, or that to which is attached the peridental membrane and upon which it depends for its attachment to the jaw.

This membrane is very similar, anatomically and functionally, to the periosteum of the bones. It is a bone forming and bone nourishing membrane. As calcification or ossification takes place in the developing tooth many of its cells are caught in the calcareous matter of the future cementum and are often completely ossified themselves. As the substance of the cementum produced by this membrane thickens and the cells, besides being caught within it, become more and more fibrous, we have a very strong attachment of these fibres in the substance and upon the surface of the root-covering or cementum, and by means of which the tooth is so firmly held in its position. The membrane ultimately becomes a ligament, as it changes from a bone-forming to a tooth-supporting one, and as the joint of a tooth in its socket is classed with the other joints of the body, so the peridental membrane is classed as a ligament, holding the tooth to its bony alveolar wall, just as one bone is held to another in the joints of the body, by their ligaments.

The peridental membrane is much more important, however, than any ordinary ligament. First, because it is, in its earlier stages, a very delicate membrane, is very vascular, or full of blood vessels, is continually undergoing changes, and from its function and position is easily injured, irritated and inflamed. It is a question, in fact, whether it is not rather more important in its relation to the tooth, than the very pulp or nerve itself.

It has been said that it is, next to the pulp, most prolific of

toothache. It is also a question whether it is not even more so than the pulp. One thing we may be sure of, and that is, that many more teeth are lost from disease of the peridental membrane than from any other cause, if not from all other causes combined.

So it behooves us, as dentists, to give the most important dental organ all the consideration possible. It is the office of every dentist, his most prominent work, to preserve and retain all of the natural teeth it is possible to keep. If then, so many teeth owe their loss to disease of the peridental membrane, the dentist who would do most towards saving the natural teeth in the mouth, must give very largely of his time and study to the consideration of this organ and its environment; its anatomy, histology, function and nutrition; to the consideration of the causes, symptoms, conditions and treatment of its diseases.

Let us consider for a while the nature of some of the tendencies which induce disease in this all important organ and from which so many of the teeth are lost. If, in the first place, we notice how near to the margin of the gums this peridental membrane is placed, lying upon the tooth-root, immediately under the free margin of the gum-tissue and extending along the entire length of the root of the tooth to the apical end, we shall see how easily injuries to the gum, by biting too-hard substances and allowing food particles to rest upon the gum margin and about the necks of the teeth, will induce inflammation not only of the gums, but also in its direct relation to the gums of the peridental membrane also. Anything which induces inflammation or congestion of the gums, will endanger the more important organ, the peridental membrane. Being deeper seated and not so readily affected by remedies for the treatment of diseased conditions, this membrane does not respond so readily to medication. It is also more prone to infection in an inflammatory condition and is not so easily sterilized as if placed upon an open surface and where antiseptic mouth-washes and sprays may directly reach the area of infection.

In all cases of congestion and the later stages of inflammation, there is sure to be some degeneration of the accumulated blood as well as of the tissues lying near—gum and peridental tissue, alveolar structure of bone, etc.—involving all of the parts in the environment of the teeth. One of the forms of degeneration of the blood and tissues lying about and upon the roots of the teeth, in the gums, bony process about the teeth and in the organ of their attachment, the peridental membrane, is that of calcareous degeneration and deposit of the hard lime salts. These in turn become sources of irritation in the tissues and with a gouty diathesis or inherited tendency to gout or rheumatism, the salts deposited are the urates of lime and soda, (accumulations of waste products of the system due to altered function of the excretory organs, the kidneys, and skin, etc.) and act as literal

poisons where the accumulations and infective inflammation occur. These areas of infective inflammation and degeneration are injurious, not only because the teeth and the adjacent parts are affected, but because they lead to many forms of systemic derangement and organic troubles. Because the products of decomposition, from the simple active form of inflammation with acid reaction of the exudates to the complete destruction of tissue with the formation of pus, swarming with bacteria and poisonous ptomaines, because these products are mixed with and contaminate all the food that is masticated in mouths so affected, and as a source of nutrition the food is literally poisoned by these elements. How is a system to be nourished under these conditions? Is it any wonder that stomach, liver and intestinal troubles arise when these organs must depend upon food thus contaminated for their well-being and functional activity? The wonder is that there do not occur many more and more serious organic diseases from infection arising from these mouth conditions.

It is not infrequent to find mouths, otherwise clean, or so to all intents and purposes, but with a form of chronic infective inflammation deep-seated often with pus oozing from about the necks of the teeth, with receding gums, denudation of the tooth-root, and atrophy of the alveolar process, causing sooner or later a decided loosening of the teeth and their final loss from a breaking up of the attachment to the jaws. And this is the way in which a great majority of all teeth are lost.

There is more than the loss of the teeth so affected, which is in itself a matter of serious consideration, especially for us as dentists. As more than mere tooth-tinkers, we must see farther than the mouth, and with this as a cause for more general disorder, recognize systemic disturbances. We must see the results of acidity in the mouth; of throat affections, tonsillitis and catarrhal conditions, both infective and infected; of gastritis; intestinal indigestion; and most important of all, a general anemia.

This occurs especially in children, which in many cases, arises from the circulation of decayed and waste matter from the mouth, with its decaying teeth and inflammatory conditions incident to the change from temporary to permanent teeth, and its blood-destroying elements. The blood becomes impoverished by the destructive effects upon the red blood corpuscles of these poisons in the circulation and the absorption of its limited supply of oxygen.

The blood depends for its oxygen-carrying power upon the number of its red blood corpuscles. Normal blood is slightly alkaline in reaction. When, from any cause, there is irritation, and this is largely due, in the blood stream, to the presence of

bacteria, with a destruction of blood corpuscles, and a loss of functional activity in the red-blood corpuscle and a consequent loss of oxygen, the blood becomes more acid, and thus loses its oxygen-carrying power, and with the loss of oxygen there is also a loss of cell functional activity, slight acidity, a consequent loss to the general vitality, and a greater tendency to the progress of disease, from lowered vitality and lessened powers of resistance.

These are the natural consequences of neglected local disorders manifesting themselves in a disturbed systemic condition. And many, if not all, of such disturbed conditions of the system might be, in part, if not entirely, prevented by recognition and treatment of a corresponding or correlated local disease. The mouth, the beautiful entrance and vestibule of that "house more beautiful" within, should most of all be clean and in a condition of perfect health. Here begins the wonderful change which the nutrient material must undergo before it is manifested in the quick, springing step; the clear, bright eye; the ruddy skin; the merry laugh and the light heart that mark the condition of good health.

We are largely responsible for lack of these if we fail to recognize and relieve conditions which interfere with the fulfillment of these naturally inherited physical qualifications. No system can be properly nourished, no organs perform their normal functions, if the food supplied for such nourishment is mixed with a percentage of poisonous and injurious matter.

The first process in the preparation of food for the system is its mastication, its trituration or division and mixing with normal fluids secreted by the glands in the mouth. If the teeth, the organs of mastication, or the tissues about them, are diseased, just in proportion to the diseased condition will the food be contaminated and rendered unfit for proper nourishment. With this as a watch-word let us see what measures should be observed in order that these organs may be kept in perfect condition, be made to perform normal functions and that no admixture of injurious substances takes place.

The most common evidence of the disease is accumulation of tartar, (salivary calculus), due to abnormal condition of the fluid secreted by these glands; associated with this is a congested line of gum tissue at the gingivae or margin, and the deposit of salts of lime and soda from the degeneration of the congested blood in the gums and periodontal membrane. These accumulations only aggravate the inflammatory condition, which makes it a progressive disease, growing more and more extensive as time goes on, and including more and more of the surrounding tissues.

The first step in the treatment is the thorough scaling of the whole surface of each tooth in turn, not forgetting to completely scarify the gums and deplete them of the congested blood. This process of scaling should continue at each sitting until all accumu-



lations have been removed, the teeth left smooth, and the gums restored to healthy color, filled with new blood and all hypertrophy removed, and their margins adherent to the necks of the teeth. At each sitting, just before dismissal, the gums and teeth should be painted thoroughly with tincture of iodine. The tooth surface exposed should be thoroughly polished, using powdered pumice-stone and orange-wood stick for this purpose, and convenient instruments used to facilitate reaching all surfaces. Polishing should be done at intervals of three days, for at least five times, until a bright, clear color returns to the teeth and hard and firm gum tissue, of a normal pink color is obtained. Associated with the treatment at the hands of a thorough, careful and conscientious dentist, there must go the regular daily care by the patient and his co-operation instilled and no return to the former condition allowed to take place from indifference or neglect on his part.

Treatment should be continued until the normal condition is restored, all traces of congestion, inflammation and even redness have disappeared from the gums, and the teeth show a smooth, bright surface and a clear color. A study of symptoms and conditions of the disease and the treatment closely followed and continued, must result in the saving of thousands of teeth, and their being restored to years of usefulness; teeth which otherwise had been neglected, were thought useless and needlessly lost.

## **Proceedings of Dental Societies.**

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### **THE JAMESTOWN DENTAL CONVENTION.**

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The Jamestown Dental Convention, to be held under the auspices of the Jamestown Exposition Co., the Southern branch of the N. D. A. and the Virginia State Dental Association, will convene at Norfolk, Va., September 10th to 12th, 1907. The Jamestown Exposition Company have appointed the following gentlemen a Committee on Organization, to elect officers in advance of the meeting, to appoint all committees, to finance the meeting, to bring it to a successful termination: Drs. Burton Lee Thorpe, of St. Louis, Mo., Chairman; H. Wood Campbell, Secretary, Suffolk, Va.; F. W. Stiff, Treasurer, Richmond, Va.; R. H. Walker, Norfolk, Va.; Thos. P. Hinman, Atlanta, Ga.; J. E. Chace, Ocala, Fla.; Clarence J. Grieves, Baltimore, Md. The Committee on Organization have appointed Dr. Clarence J. Grieves, of Baltimore, General Chairman of the Clinic Committee, and Supervisor of Clinics. A number of well-known men will assist him on the General Committee.

State clinic chairmen have been selected from every State in the Union. The clinics are to be the principal features of the convention. It is expected to bring about the largest and most instructive dental clinics ever held. A surgical clinic will also be held under the supervision of Dr. L. M. Cowardin, of Richmond, Va. The other members of this committee are J. Y. Crawford, Nashville, Tenn., and A. G. Fredericks, New Orleans, La. Dr. F. W. Stiff, of Richmond, Va., is General Chairman of the Membership Committee. Assistant State chairmen have been appointed from every State in the Union. Already membership fees are being sent in, and the promise is for the largest gathering of dentists ever held. Only five essays will be read at the convention—one by Prof. W. D. Miller, another by G. V. Black; the other three by well-known Southern dentists. Several exhibits of much interest to the profession will be held under the auspices of the convention. Amongst them the dental manufacture exhibit, in charge of Dr. John W. Manning, Norfolk, Va., chairman; a comparative anatomy exhibit, in charge of Dr. W. M. Bebb, chairman, of Los Angeles, Cal. (this exhibit will consist of 3,000 comparative anatomy specimens, to these will be added numerous other collections of interest); a dental historical exhibit, consisting of ancient instruments, operative and prosthetic work, books and photographs, under the chairmanship of Dr. Wm. H. Trueman, of Philadelphia; the orthodontia exhibit, showing a large collec-

tion of models, etc., under the chairmanship of Dr. H. E. Kelsey, of Baltimore, Md.; the U. S. Naval Dental exhibit, showing 3,000 charts of the mouths of midshipmen, under the chairmanship of Dr. Richard Grady, the U. S. naval dental surgeon of Annapolis, Md.; the exhibit of the U.S. Army dental corps, under the chairmanship of Dr. John S. Marshall, of San Francisco, Cal., will show the equipment, method of keeping records, etc., used by the dental corps. A full list of the various officers, which are to be elected in advance by the Committee on Organization at their next meeting in February, 1907, and of the committees will appear in due time in the various dental journals. The Committee of Organization is expected to select officers in advance, in order that the officers may be prepared for their duties before the actual convening of the convention. A cordial invitation is extended to all reputable members of the profession to become members of this convention, and assist the Committee on Organization in bringing about one of the best, if not the best, dental meetings ever held. The exposition itself offers an excellent opportunity for the busy practitioner to take a delightful vacation, see the wonderful historical, naval and military exhibit at the exposition, and also to participate in this meeting. The membership fee, which is \$5.00, should be sent to Dr. F. W. Stiff, Treasurer, 600 East Grace Street, Richmond, Va. For further information address H. W. Campbell, Secretary, Suffolk, Va.

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#### **TWENTY-FIFTH ANNIVERSARY REUNION, CELEBRATION AND CLINIC OF THE CHICAGO COLLEGE OF DENTAL SURGERY ALUMNI ASSOCIATION.**

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On the 16th and 17th of January, 1907, the Alumni Association of the Chicago College of Dental Surgery will celebrate the twenty-fifth anniversary of the establishment of the college by holding a grand reunion and clinic. Arrangements have been made for a number of papers, a very extensive clinic, a theatre party and a banquet. A railroad rate of a fare-and-a-third for the round trip from all points in the United States and Canada on the certificate plan has been arranged for.

A cordial invitation is extended to the general profession to be present, as well as all members of the Alumni Association and all graduates of the College.

R. C. BROPHY,  
J. P. BUCKLEY,  
*Committee on Publicity.*

# Dominion Dental Journal

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No. 12.

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## BOARD ELECT OF R.C.D.S.

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The biennial election of a Board of Directors for the Royal College of Dental Surgeons was completed on Wednesday afternoon by the counting of the ballots in those districts which were contested. The result of the election is as follows: District No. 1—Dr. J. C. Bower, Ottawa, re-elected in a contest with Dr. M. G. McElhinney. District No. 2—Dr. G. C. Bonnycastle, of Bowmanville, re-elected by acclamation. District No. 3—Dr. C. E. Pearson, Toronto, re-elected in a contest with Dr. A. J. Edwards. District No. 4—Dr. R. B. Burt, Hamilton, re-elected by acclamation. District No. 5—Dr. A. M. Clark, Woodstock, re-elected by acclamation. District No. 6—Dr. W. J. Bruce, Kincardine, elected in a contest with Dr. C. E. Bean. District No. 7—Dr. H. R. Abbott, London, re-elected by acclamation. Representative from the Faculty of the School of Dentistry—Dr. J. B. Willmott, re-elected by acclamation.

### WOMEN'S INSTITUTES.

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There is organized in Ontario, under the Provincial Government, a body of women from the rural districts, known as the Women's Institute. In villages and rural districts there are local organization among the women having for their objects the betterment of the conditions under which they live. Each year the local institutes send delegates to the central organization, which holds its meetings in Massey Hall, Guelph. The Department of Agriculture provides a programme of interest to the delegates. Such subjects as "Prevention of Tuberculosis," "Care in Handling Milk," "How to Furnish and Decorate a Farm-house," "The Growing of Plants," "Economy in the Kitchen," "How to Prepare Fowl for Market," "The Dangers of Patent Medicines," "The Relation of the Teeth to Health," etc. The delegates bring note-books and pencils, and take notes of the addresses, because they will be expected, when they return to their several local organizations, to deliver addresses on the subjects heard at the central meeting. In this way there is a rapid and thorough dissemination of knowledge to a very large organization. The subjects heard at Guelph are the subjects of study for the year. On the 13th of December this year about six hundred delegates were in attendance at Guelph. These delegates represent a constituency of between twelve and fifteen thousand members. When an address is delivered at Guelph it means that fully twelve thousand mothers will become acquainted with it before the next year ends. Some of the more important addresses are printed by the department and sent out at once to the whole membership.

The writer had the honor of delivering an address on "The Relation of the Teeth and Mouth to Health," before the annual meeting in Guelph, December 13th, 1906. The address will be printed and sent out to the whole membership within a few weeks, and its teachings studied by the local institutes. This is the first recognition by the Government of the necessity of educating the mothers of the nation in matters of dentistry. The Department of Education has failed to act in this important part of its duty, but we are glad to say that the Department of Agriculture is willing to do anything that will help to prolong life and make it more comfortable and happy. The department will publish and distribute matter relative to the care and treatment of the teeth to its thousands of members of Farmers' Institutes and Women's Institutes, if the copy is supplied to them. For years the dental profession has recognized the necessity of educating the public in matters of dentistry, but no means was ever devised to pay some one or a committee for preparing a series of articles, having them published and dis-

tributed. It was suggested that the Board and the Ontario Dental Society, supply a fund for this work, but nothing ever came of it. But now since the printing and distribution will be done by the Department of Agriculture and the ball has been set rolling, it would be too bad if some means cannot be devised for getting the copy ready. No dentist can afford the time to prepare such a series of bulletins as these should be without being paid for it. There are two or three dental organizations that could not interest themselves in a more meritorious work. We have Government recognition in the matter now; shall we let it go by the board?

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### DEATH FROM ETHYL-CHLORIDE.

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At Saskatoon, Sask., on October 22nd, 1906, T. Madison, a strong, healthy man, 24 years of age, applied to Dr. Belyea for an operation, which required the administration of an anesthetic. Ethyl-chloride was administered and the patient died from its effects within a very short time.

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### SUIT TO COLLECT FEES FOR BROCKEN APPOINTMENTS.

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Dr. O. A. Marshall, of Belleville, undertook to collect a fee in the courts from a patient who broke an appointment. He required a twenty-four-hour notice of inability to keep an appointment, but in this case the patient gave only one hour's notice. He had more than one patient that morning that he could not work for because he had the appointment in question. The judge, in commenting on the case, said that if it was the habit of dentists to charge for broken appointments he was going to do what he could to stamp it out. He could not see how Dr. Marshall lost anything, inasmuch as the patient afterwards made another appointment and had the work done. If she had gone to some one else, then he could understand the reason for the action. Is not this the comment of a man whose own time is worth little or nothing and thinks every one else is like himself? It seemed too much for him to understand that an hour lost can never be regained. A dentist's time is his living. He cannot make up time, because every patient comes at an appointed hour, and will demand the time.

There are many cases on record where judges have said that broken appointments must be paid for. This is the first one coming under my notice where it was held that the fee could not be collected.

### THE ONTARIO DENTAL SOCIETY.

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Through an error of the printers the dates sent out in a circular to the profession in Ontario were Feb. 24, 25 and 26. Judging from the number of good-natured references to the mistake which have come to hand we are assured that the circular was read, and that a number of readers knew that Feb. 24 is a Sunday. We have been accused of running counter to the Lord's Day Alliance and making attractions to draw the people away from the churches, of making life hard for Sunday-school teachers, and of knowing that members of the Ontario Dental Society do not go to church. Only one correspondent looked favorably on the idea. It is his conviction that the meeting should be opened with a church parade. As a committee we renounce our accusers and all their works. It was a simple mistake. All this we steadfastly believe.

The programme this year will be somewhat off the beaten track: Preparation of cavities for inlays and the making of gold inlays; the status of the more recently introduced cements as filling materials; a symposium on economy, economy in buying supplies, in using them, care in waste products, economy in assistance, etc; dental ethics.

Dr. C. N. Thompson, of Chicago, and one or two prominent men from Buffalo will take part in the programme.

There will be a good lay-out of clinics, and as usual an up-to-date convention in every particular.

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**Correspondence.**

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**DENTAL PROFESSION IN CANADA.**

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*To the Editor of DOMINION DENTAL JOURNAL:*

In response to the request to the profession in November issue of the *DOMINION DENTAL JOURNAL* for anything of historical value, such as pamphlets, brochures, photographs, instruments or appliances, several of the profession have shown a lively interest and concern in the history of dentistry in Canada by forwarding what they had in their possession.

Among those whose contributions were exceedingly interesting were Miss Nan Wood, of Cobourg, daughter of Dr. H. T. Wood, deceased, and Dr. Beacock, of Brockville.

The Editor and publishers of the *DOMINION DENTAL JOURNAL* have kindly consented to assist in issuing, early in the New Year, an especially historical number of this Journal, in which will be recited, as fully as possible, the career of many of the deceased members of our profession, as well as that of our oldest living practitioners. These sketches will be accompanied by cuts, where possible.

May I ask the profession to forward to me, as early as possible, anything which will assist us with this special issue?

Will any of those now in practice, who know of the address of relatives of the deceased members of our profession, forward those addresses?

Anything loaned will be carefully preserved and returned as soon as possible.

G. M. HERMISTON.

21 Bloor Street West, Toronto.

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14 PHILLIPS SQUARE,

MONTREAL, December 4th, 1906.

*To the Editor of DOMINION DENTAL JOURNAL:*

DEAR SIR,—It is with great regret that I read in your November issue of the *DOMINION DENTAL JOURNAL* a repetition of the gross insult given the dental profession by the author of the paper read at the convention here in September last.

You not only repeat the insult, but give another free advertisement to a man who poses as the great and only "oral surgeon."

Why, a blind man could see through the dodge of attracting public attention, while he poses in the limelight; this Dr.



Curtis received a good deal of free advertising here in September, and now you give him further notoriety by handing out his egotistical bombast to your unfortunate readers, even to the extent of including his address, so that the unfortunate victims of our unskilful treatment, and according to the paper, of our dirty offices and equipment (unfortunately not under the supervision of the health authorities as are the other abattoirs), will know where to apply for aseptic treatment.

Have you ever read a paper from an adult in which the pronoun "I" figured so prominently, and in which it is so plentifully sprinkled; it reads more like a patent medicine advertisement than anything else?

In conclusion, one must say that it is disgusting—yes, that is the expression, disgusting—to have such clap-trap served to us in the only dental journal we have in the Dominion for scientific reading.

Yours truly,

PETER BROWN.

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### WANTED.

A strictly professional and experienced graduate to take charge of an office in Winnipeg for 3 or 4 months from January. May be a good opportunity for a man who is contemplating moving to Manitoba. Address, Dr. Louis F. Bouch, Winnipeg.

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Wanted at once, the best available all-round man in Canada. Must be thorough operator, expert crown and bridge-worker; Registration unnecessary. One between the age of 25 and 40 one with full knowledge of plate work preferred. Must be a gentleman of good address. Need not be a college graduate. preferred. State qualifications and salary expected. Apply any time. Splendidly equipped offices. Dr. J. D. Maher, Boston Dental Offices, 527 Main Street, St. John, N.B.





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